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THE DUTIES ON WOOL AND WOOLLENS.*

IN the quarter of a century which has now elapsed since the passage of the wool and woollens tariff act of 1867, the system of duties then established, and since maintained in its essential features, has gradually come to be the crucial part of the protective policy. At the beginning of this period the iron duties were more important in their economic effects, and perhaps in their political weight. But the extraordinary development of the iron industry, in some degree stimulated by the tariff, and greatly aided by other more potent causes, has made the question of protection much less vital than it seemed to be twenty years ago; while the maintenance of the wool

*In this paper I have avoided as much as possible the repetition of what has been given to the public in my volume on the *Tariff History of the United States*. More particularly, I have passed over the changes made from time to time in the rates of duty, and venture to refer to the *Tariff History* the reader curious as to these details and their significance.

I have to acknowledge my indebtedness to Mr. Henry G. Kittredge, of the *Boston Journal of Commerce*, for many valuable suggestions, based on his intimate knowledge of the wool and woollens trades.

and woollens duties is steadily asserted to be as essential as it ever was. At the same time the mode in which the duty on wool has been made to do service in Ohio and other States of doubtful politics, as assuring the farmer his share of the benefits of protection, has given it a foremost place in election years, and has finally made it the point of specific difference between the great political parties. The Democrats, after years of half-hearted attack on the policy of high protection, were finally spurred to an unequivocal statement of their intentions by the courageous message which President Cleveland sent to Congress at the opening of the session 1887-88. In the tariff bill prepared in the course of that session by the committee of which Senator Mills was chairman, they proposed to put wool on the free list and to reduce correspondingly the duties on woollens. The Republicans, by way of answer to this declaration, proposed, in the bill elaborated by their Senate committee during the same session, a slight increase in the wool duty and a more than corresponding increase in the rates on woollens,—changes which were finally accomplished when the elections of 1888 gave the Republicans a working majority in both Houses, and enabled them to pass the tariff act of 1890. The overwhelming victory of the Democrats in 1892 gives them now the opportunity to carry out in turn their policy. Whatever uncertainty there may be as to the disposition of other parts of the protective system at the hands of the present Congress, it may be assumed as settled that the wool duty will go, and that the system of 1867 will be replaced by a fundamentally different *régime*. The time is opportune, therefore, for a consideration of the effects of the policy followed during the last twenty-five years and the probable effects of the policy which is to come.

In such an examination it will be best to separate the duties on wool from those on woollens, leaving for final

discussion the mode in which the effects of the two have become entangled. We may begin with those on wool.

I.

The tariff act of 1867 divided wool into three classes,—clothing wool, combing wool, and carpet wool. The names indicate that the divisions were meant to correspond to the uses made of the different classes. Clothing wool was that whose fibres were to be interlaced by carding machinery. It was used in making the textiles denoted by the language of other parts of the tariff acts as “woollen cloths.” Combing wool was that whose fibres were to be brought parallel to each other by combing machinery, and used in the manufacture of “worsted.” Carpet wool was of coarser quality, and expected to be used for carpets. But the expected use could not be the test for distinguishing the wools at the custom-house, and there the distinction went by blood. The wools of sheep bred from certain described stocks were defined as clothing, combing, or carpet wools, respectively.

In considering the effects of the duties assessed under these three heads, carpet wool may for the moment be set aside. Very little carpet wool is grown in the United States or has ever been grown here, and the questions which arise concerning the duties on this quality are much more simple than those brought up by the other two classes of wool. In current discussions of the wool duties it is those on clothing and combing wool which are chiefly had in mind; and this with reason, since they alone present the intricate and disputed problems as to the working of the protection given to wool. We may proceed, then, to examine these by themselves, leaving for a later place what little is to be said in regard to the duties on carpet wool.

The duties on clothing and combing wool, as it happens,

may be treated virtually as one. On the face of the statutes the two classes have been charged, sometimes with the same duties, sometimes with duties slightly divergent. The rates, too, have shifted somewhat, being slightly reduced in 1872, raised to the old rate in 1875, again reduced slightly in 1883, and once more raised a trifle in 1890. All these changes, however, were inconsiderable, as were the divergences in the rates on the two classes. We may treat the duties on clothing and combing wool as having been virtually maintained during the whole period at a roughly uniform rate of between ten and twelve cents a pound. In the earlier years this was equivalent to thirty or forty per cent. on the foreign prices. As prices went down, the percentage rose to fifty and more. The protection has been substantial, and has been continued long enough to work out all its effects.

The difference between the rates on clothing and combing wool may be disregarded, not only because it has been small in amount, but because for many years it has corresponded to nothing of essential importance in the wool trade. The distinction according to breeds between the two classes of wool, as made in 1867, denoted real differences in the way in which the material was used; but it soon became unmeaning and unimportant.

In 1867 the wool which it was possible to put through the combing machine was strictly limited; only that having a long staple, yielded by certain breeds of sheep mentioned in the tariff act, was available. As time went on, combing machinery steadily improved; and a larger and larger quantity of wool of the merino sheep, classed in the act of 1867 as clothing wool, passed through the combs, and was manufactured into worsteds. This was the case with both imported and domestic wool; and it is difficult to see why in 1883, and still more in 1890, when the lines of distinction drawn in 1867 were known on all hands to be obsolete, they were yet retained on the statute book.

The explanation doubtless is that the system of wool and woollens duties had been so often lauded as perfect in plan that it was feared to touch it in any prominent place. At all events, for our purposes, we may disregard the distinction between clothing and combing wools. While almost all of the wool grown in the United States would be classed under our tariff system as clothing wool, a good part of it for many years has passed through the combs; and similarly much of the wool imported and dutiable as clothing wool has also been combed. For practical purposes these two may be taken as one mass of wool, the greater part of which may be turned at will to the manufacture, by one or the other sort of machinery, into woollen or worsted cloths.

The first questions to be asked in considering the effects of a given duty are as to the domestic production and the imports, and the relative importance of these two sources of supply. The facts here are ascertainable with all needed accuracy, and have lately been collected in convenient and accessible form.*

Looking first at the domestic supply, we find three distinct stages in the course of production. First, from 1867 to 1873, the product remains stationary at about 170 million pounds. Next, in the years 1873-83, there is a very rapid advance. The annual output increases rapidly and steadily, and by the close of the ten years has passed 300 millions. Since 1883 there has been again a stationary product, with indeed some tendency to an actual decline in very recent years. Taking the twenty-five years as a whole, there has been an increase from between 160 and 170 millions of pounds to about 300 millions; but this advance was achieved entirely in one decade,—between 1873 and 1883.

The stagnation of the years immediately following the

* In the *Wool Book*, compiled in 1891 by Mr. S. N. D. North, Secretary of the Association of Wool Manufacturers, and published by the Association.

passage of the act of 1867 has sometimes been referred to as proof of the failure of that measure. The situation in 1867-73 was, indeed, even more unsatisfactory to the wool-growers of the heart of the country than the figures of total production indicate. During that period the number of sheep and the product of wool in States like Ohio and Pennsylvania declined greatly; and the total product of the United States was maintained only by the gain in other regions, which is presently to receive our attention more fully. The slaughter of sheep and the losses of wool-growers in Ohio were ascribed by the opponents of the act of 1867 to the disastrous working of that measure. But they were due mainly, if not entirely, to other causes. The demand for wool was declining. During the Civil War the stoppage of the cotton supply had led to a much greater demand for wool. As cotton reappeared on the market, this unusual demand ceased. The price of wool fell, and its production tended to shrink. As it happened, one of the freaks of fashion intensified the depression which the wool-growers of Ohio and neighboring States had to meet. Certain woollen goods, or rather worsteds, made from combed wool, came into demand; and at that time combing machinery could be applied to very little American wool. A heavy importation of combing wool took place during the years 1871-73, and the usual grades of domestic wool went begging. The crash of 1873 marks the end of this period, abnormal for the wool trade as it was in many respects for the industry of the country as a whole. Those who favored the system of duties established in 1867 might well say that it was not fairly on trial until the last direct effects of the Civil War had disappeared and the wool trade had fairly settled down to a trial of the new *régime*.

Beginning roughly with 1873, the production of wool, as we have seen, rose steadily and rapidly. Here, it might be alleged, the fruits of the legislation of 1867 were

at last appearing. To understand the development after 1873, however, and measure the extent to which it was promoted by the protection of wool, we must consider not only the advance in the total volume of production, but the marked change in its geographical distribution. Here the salient fact is the westward movement of wool-growing, and the steadily declining importance of the more thickly settled Eastern and Central States. The region east of the Mississippi has produced a smaller and smaller part of the total supply of domestic wool, and that west of the Missouri a larger and larger part. In the decade of rapid advance, from 1873 to 1883, the gain was made chiefly in Texas, California, and the Territories. A small part of it only came from those parts of the country which are the political strongholds of wool-growing. Since 1883, again, these Eastern and Central States have shown a marked loss; and the total product has been kept stationary only by the increased yield at the frontier, as in Montana, Oregon, Wyoming, New Mexico.

This phenomenon is an old one in the United States. The newer parts of the country have always been the most important producers of wool. Sixty years ago New York and Pennsylvania formed the great wool-growing region; thirty years ago, Ohio and Michigan; at present, Texas, New Mexico, California, Oregon. In the earlier stage of settlement, sheep are kept for their wool on the thinly occupied lands; and wool-growing is a primary and independent industry. As agriculture reaches a more developed stage, sheep are kept as an incident in the general cultivation of the soil. A certain number can be maintained to advantage at very slight cost, but the use of the land simply for their pasture no longer pays. The commercial mode of stating this is that the land becomes too dear for sheep-raising; and the testimony which has been given on behalf of wool-growers before tariff committees and commissions has a plentiful sprinkling of

calculations of the cost of raising wool, in which the rent of the land figures as a heavy item. The simple fact of the situation is that the rent of land, or, what is the same thing, its price, is high, because the greater density of population has made it advantageous to use the soil for other purposes. Wool-growing naturally shifts to regions so thinly settled and so far from the centre of population that tillage has not yet begun.

This westward movement has been promoted in the last twenty years by the rapid pushing of railways into the new country west of the Missouri, and the consequent ease with which the Indians have been subdued and the wild beasts exterminated. The Union and Central Pacific Railways were completed across the continent in 1869, opening a new region to exploitation. Other important lines penetrated the country to the north and south. That process of building great lines far ahead of population into new and unsettled regions, which marks the history of railway operations in the United States since 1850, strengthens the tendency to pastoral use as the pioneer stage in the occupation of the soil. Vast stretches of land become accessible, and can be most quickly and profitably utilized by pasturing sheep and cattle. Beef and wool have been the products first brought to market, and both have been yielded in quantities so large as to make inevitable the decline in their prices. If the land is of the sort that can be used for tillage, this is but a temporary stage. Settlers throng in, wheat and corn succeed cattle and sheep, and the wool clip diminishes; the transition being sometimes accompanied by a struggle between the large holders, who wish to retain the use of the land for droves and flocks, and the poorer settlers, who seek to found new homes on permanent farms. Sometimes, indeed, the obstacles of climate prevent the transition from taking place at all. As the arid region of the West is approached, the rainfall becomes too small

for agriculture; and "ranching," in one form or another, is the only possible use of the land. Herdsmen, with sheep or cattle, then become the permanent occupants.

The details of this process can be easily traced in the development of some of the Western States during the last twenty years. Thus in the decade 1870-80 California became a great sheep-raising State. Since 1880 the number of sheep has declined to one-half the former number: agriculture is succeeding pasture. In Texas the number of sheep increased with extraordinary rapidity until 1885: then the decline set in. Montana, Oregon, Utah, Wyoming, have increased their number of sheep and their wool clip until the present time. They are still in the pioneer stage of pastoral occupation. Some portions of these States, and large stretches in New Mexico and Colorado, are in the region of deficient rainfall, and will remain permanently pastoral. But, as time goes on, the available lands will be taken into tillage, and will have a smaller number of sheep and a smaller product of wool.

The counterpart of this process has been going on in other parts of the world. Australia, the Cape of Good Hope, and the Argentine Republic, stand in the same relation to European countries as the ranching parts of the West to the settled regions of the East. The enormous cheapening of transportation has made them available for supplying England and the Continent with wool. The slower progress of settlement in the Argentine Republic has kept this region of supply in the pastoral stage longer than would be the case with a similar tract in the United States; while Australia and the Cape of Good Hope present climatic conditions similar to those of the more arid districts of our West, and so bid fair to remain great wool-producers permanently. How far these countries may become sources of supply for the United States also is another question, to which attention will presently be given.

It is clear that the increase in wool-raising in the United States has been due, in large part at least, to causes of general operation. We have the case, familiar in economic history, where several causes have united to bring about a given result; and no one of them can be ascertained to have contributed specifically more or less. The higher duties of 1867 may have stimulated the increased production of wool in 1873-83: the general course of economic development in the West might conceivably have resulted in the same increase without any duties. Certain it is that any effect which the duties may have had, exhausted itself before long. The stationary production of the last ten years, and the fluctuations in the individual States, show how signal is the effect of other forces than the tariff, and gives color to the opinion that things would not have been greatly different even if there had been no changes of duty in 1867. This view gets some confirmation from another quarter,—from an examination of the relation of the domestic supply of wool to the imports, and the course of prices at home and abroad.

The figures as to the imports of clothing and combing wool since 1867 show that these continue steadily and in considerable volume, though with great fluctuations from year to year. In periods of activity, as in 1871-73 and 1880-81, they rise rapidly. The very large imports of the earlier years of our period, in 1871-73, are due largely to the unusual conditions referred to a few pages above,—the change in fashion and the consequent great demand for combing wool, then not obtainable within the country. During this abnormal period the maximum imports of any one fiscal year, 57 million pounds, were reached in 1872. Then there came a tendency to declining imports, in the years of depression, after the crash of 1873,—the period during which domestic production was advancing most rapidly. The minimum imports were those of 1879, less than 7 millions. The revival of industry brought a sudden in-

crease in 1880 and 1881; and in the years since 1883 and 1884 there has been a very distinct tendency to an increase. The imports of the last decade have been between 20 and 30 million pounds annually, and nearer the second figure in its later years. They were unmistakably larger in the nine years, 1884-92, than in the nine years preceding; and the increase has been distributed over the individual years with a steadiness indicating that the change is not sporadic. While the domestic production has been slackening during the last decade, the imports have been gaining.

The steady continuance of large imports, and the tendency in late years to an increase rather than a decline in their volume, might seem to prove that the price of domestic wool has been higher than that of foreign by the full amount of the duty. So much can be inferred whenever imports flow in over the barrier of a duty. In the case of wool the inference would be that the domestic product has had the full benefit of the duty; and thence, again, that the increase of domestic production has been very effectively stimulated by it. But, in so reasoning, we must first be sure that the article imported is really the same as that made at home, and that no differences in quality or use affect the extent to which the two compete. And with wool it happens that great differences exist, and make it impossible to reach any such simple conclusions in regard to the meaning of the imports as the figures on their face seem to warrant.

No raw material presents such differences in quality as wool, varying as it does in fineness, length, and lustre of fibre, in cleanness, and in availability for constantly changing machinery and for the varying goods demanded by the caprices of fashion. At the same time climate, soil, the breeding and care of sheep, affect the character of the fleece, and bring about insensible gradations in quality and commercial value which only those active in the trade

can follow. But, in the confusion with which the layman finds the situation obscured, some things stand out clearly. The bulk of domestic wool is different from the imported wool. It has a comparatively short fibre, is strong, but not fine, and is adapted for making cloths of good quality, but not of the best. With no considerable exception, it is "clothing" wool under the tariff system of classification by blood. Twenty years ago most of it was really clothing wool, being too short in fibre for the combing machinery of the day. At present, what with the changes in the quality of the fleece and the improvements in machinery, a very large part of it passes through the combs. The imported wool (always setting aside the carpet wool) is of finer quality, has a longer staple, and is used — generally in admixture with domestic fleece — in making finer and more expensive goods, chiefly worsteds. It does not compete directly with the bulk of the domestic wool.

Under these circumstances the effect of the duty is not easy to make out. The price of much the largest part of the domestic wool is not directly affected by foreign competition, and certainly is not higher than that of similar wool abroad by the full extent of the duty. It may be higher in price by some amount less than the duty: it may not be higher at all. What the exact situation is cannot be stated with any sort of precision. Probably the wool that might compete most directly with the bulk of the domestic product is that of the Argentine Republic, whence large supplies were imported in the years immediately preceding the Civil War. All of this now goes to Europe, chiefly to the Continent: the duty prohibits its importation into the United States. So long has it been prohibited that the trade has lost that one infallible means of comparison which is given by sale in a common market. With the lapse of time, both American and Argentine wools have changed in quality: the tastes of consumers, the details of machinery, have changed. No one can say

exactly in what relation the two articles now stand. The indications are, on the whole, that average American wool is somewhat higher in price than similar wool is abroad. Ten or fifteen years ago the difference, though not so great as the amount of the duty, was considerable. Of late years it has been less. The price of American wool seems to have gone down as compared with wool prices abroad, and at present there is probably a variation of not more than a few cents between the foreign and domestic prices of the qualities to which the bulk of the domestic product belongs. The duty keeps up the domestic price, but probably not by a large amount. The test of sale in a free market alone can show what has been the exact situation and what the degree of effect exercised by the duty.

Some part of the domestic product, it is true, is in a different case. From Ohio, Pennsylvania, and other more Eastern States a considerable amount of fleece comes to market whose fibre and staple bring it into competition with the imported wool. Its price must be higher than that of the similar article abroad by the full amount of the duty: here the tariff exercises its full effect. But this part of the domestic supply comes mainly from the States which we have seen to be stationary or declining as wool-producers. The Territories and the West send little of the finer wool to market, though it should be said that the proportion coming from this region is now larger than it was in former years. How much of the total product belongs in this exceptional class can only be guessed. The quality of the wool which might be put in it shades imperceptibly, from that equal to the finest foreign to that used only at a pinch in substitution for the imported material. Moreover, the varying quality of that coming from the same region in different seasons, and the veerings of trade and of fashion, make the proportion different from year to year. As an approximate statement, it is

probably safe, to say that some 20 million pounds of domestic wool compete directly with the foreign in every year, while not more than 50 million pounds are in that position in any one year. At the best, the proportion of the domestic product so placed is not large.

The imported wool comes, practically all of it, from Australia. In that country the physical conditions concur to give the wool-grower advantages of an unusual sort. Vast stretches of land have not enough rainfall for tillage, yet yield succulent grasses, which make admirable food for sheep and cattle. In bad years drought makes havoc with the patient beasts; but, year in and year out, they thrive and multiply. The docile weakness of the original inhabitants and the peculiar fauna of Australia, in which few mammals and no dangerous carnivora appear, obviate the need of protection to domestic animals, and enable them to be cared for by the smallest number of herdsmen. Winter there is none; and little fodder, if any, needs be provided. Not least, the climate and soil are favorable to the growth of fine wool. Why this should be is hard to say. The covering of the sheep is sensitive to every change in its habitat; and the same animal, shifted to new food and new air, will yield a different fleece. Nature has her way, and will not accommodate herself to the designs of legislators. Thus Australian wool has become the natural supply, especially for fine wool, in England and in the Continent of Europe; and, as we have seen, it is making its way into the United States in increasing quantities. Here is a region which Nature has made a well-nigh perfect pasture; and, in attempting to shut out its yield, the United States seem to deny themselves the benefit of Nature's providence.

The prices of wool have shown a declining tendency for the last ten or fifteen years. During 1871-73 there was a sharp rise; and in the next period of activity, in

1880-81, another advance. Since 1880 the price has tended downward the world over. The decline in the United States has sometimes been ascribed to the reduction of duty by the tariff act of 1883. But the reduction was too trifling to account for the change in price. The duty fell by perhaps two cents, and the price by nearly ten cents. The cause is to be found in the great increase in the volume of production, which was marked in the United States between 1873 and 1883, and, though checked with us since 1883, has continued in other parts of the world. The improvements in transportation, opening as they do new sources of supply, constitute the main force at work. The pertinent thing, however, is not so much that prices have risen or fallen, as that prices in the United States, whether rising or falling, have been from year to year higher than they were abroad. Since 1880 the fall in prices in the United States has been greater than the fall abroad, and the margin of difference has tended to become less. How far the price of ordinary domestic fleece has still kept above that of the same article in foreign countries is, to repeat what has already been said, very hard to state with any certainty.

So much as to the main features of the general situation, from which we may proceed to a review of the effects of the wool duties and the probable immediate effects of their repeal. In the first part of the period in which the duties of 1867 fairly exercised their effects,—the decade 1873-83,—they probably stimulated the rapid advance of wool-growing in the West. The opening of the country by railways contributed greatly to the growth, and doubtless would have brought about some growth in any event; but the comparatively high price which the duty helped to maintain had its share. These years were profitable to the wool-growers of the western ranches, as the rapid increase of production proves beyond question; and the increase of itself did much to bring the lower prices of

the period since 1883.* In that later period the first effects of the tariff seem to have exhausted themselves, and the price of ordinary wool has been at a more normal level, being, indeed, probably somewhat higher than the price of the same article in foreign countries, but not so much higher as in the earlier decade, and at times very little higher. The decline in price has checked the further increase of production. The advance of agriculture into the tillable lands has acted in the same direction.

If wool were admitted free, the price of the finer grades would fall at once to the foreign price of Australian wool. That foreign price might rise somewhat for a time, under the effect of an additional American demand, with a strong probability of soon going down to the former level as production in Australia and kindred regions met the new demand. The American grower would have to submit to a lower price at once, and a still lower price as time went on. Growers of fine wool on a considerable scale would find the fall hard, and might be compelled to slaughter their sheep and quit the field. But, as it happens, there are not many such. Much of the fine wool comes from the more thickly settled region, where farmers keep a few sheep as an incident to general tillage. Here sheep for wool already tend to give way to sheep kept mainly for mutton, and the result of lower prices for fine wool would be chiefly to hasten and complete this change. In the regions west of the Mississippi and Missouri, from which of late years an increasing supply of wool of good quality has been derived, the consequences would be less easily met by the growers. It is in this part—probably not very considerable—of the domestic industry that the tariff changes would be most likely to have serious economic effects.

*On the high profits of wool-growing in this period, see the instructive testimony of Mr. E. H. Ammidown before the Tariff Commission of 1882, in the *Report* of that Commission, pp. 1782-1785. Mr. Ammidown predicted the fall in the price of domestic wool which has since taken place.

As to the more common quality of wool, which forms the bulk of the domestic product, the effects of the repeal of the duty are less easy to foresee. The same reasons which made it impossible to speak with precision of the effects of the duty on price make it impossible to predict the effects of its repeal. But, certainly, they would not be of any catastrophic sort. Some decline in price would probably set in, discounted in advance, more or less, in expectation of the repeal. The decline would not be great. It has been often urged that no decline at all would appear, since the free admission of foreign wool would so stimulate the manufacture of woollens as to cause a more active demand for domestic material, and so a higher price for it. But this is too optimistic a view of the situation; while, on the other hand, the view which foresees ruin to the American growers is as much too pessimistic. The fall in price—probably moderate, possibly very slight—would increase the tendency to substitute tillage for pasture in those regions where tillage is possible, and to keep sheep for mutton rather than for wool. In the regions of deficient rainfall and permanent pasture some gradual change from sheep to cattle might take place; and perhaps the profits of the average wool-grower would be so little affected as to leave matters much as they were. In the long run the progress of settlement would probably lead, in any event, to a decline in wool production; and this change might be expected to be quickened in some degree by a lower price of wool. It would be rash to attempt a more definite statement: the event alone can tell how things will go, as indeed this alone will enable us to tell with certainty how they have been going.

So far as the arguments for and against protective duties on other grounds than their direct effects are concerned, the situation as to wool presents no complications. The political arguments have little play. It is difficult

to see how any gain accrues to the political or social spirit of the commonwealth from the growth of ranching and the evolution of the herdsman and cowboy; while the farmer's sheep are not a mainstay of agriculture. Protection to young industries, again, has no favorable field. It has, indeed, been asserted that, given time, the duties will result in the domestic production, at low prices, of every possible grade of wool,—a contention which rests, more or less unconsciously, on the reasoning of the young industries argument. But this is mere rhetoric. Though choice of breed can modify the character of the sheep and the wool, nature, not man, determines mainly what the fibre shall be. The sort of development which public aid can sometimes promote in industries fettered by tradition, yet presenting possibilities of mechanical progress, is here subject to the limitations of soil and climate. On the whole, it is hard to see that anything in the situation presents a case for exception to the general reasoning by which it is concluded that free trade secures the most advantageous adjustment of the forces of production.

Before leaving this part of the subject, the third class of wool on which duties are levied may be briefly considered,—carpet wool. The situation here is very simple. Practically all the carpet wool is imported. Practically none competes with a domestic supply. There are slight exceptions to be made to these general statements. Some domestic wool is used in making carpets, and those who produce it gain by the duty; but their clip is an insignificant part of the total production. Again, some part of the wool imported as carpet wool is used in making cheaper woollens, and so meets a demand by which the domestic growers might possibly profit; but this, too, is a small amount.

Carpet wool is a coarse material, coming to the United States mainly from China, the Argentine Republic, Rus-

sia, and Asia Minor. The list suggests the conditions under which it is grown. It comes from countries backward in civilization, where the sheep run half-wild. No choice of breed is made, and the wool on the animal is accepted as it grows. The wool-producer of advanced countries, like the United States, England, and Australia, secures a better fleece, commanding a higher price, by forethought and intelligence in choice of breed and care of the sheep, and without additional labor at all in proportion to the higher price. He confines his wool-growing, naturally, to the better qualities, so far as soil and climate bring them within his reach. Hence the coarser wool is supplied exclusively by importation from countries where commercial intelligence is as yet hardly awakened. This division of labor is a striking case of trade carried on under the conditions of different comparative cost; resting, however, not so much on the physical causes of difference, which Ricardo and his followers had chiefly in mind when they set forth the doctrine of comparative costs, as on differences in the intelligence and industrial quality of different races of men.

The imports of carpet wool are much the largest, in quantity and in value, of the three classes. They increase, too, with the steadiness characteristic of those parts of our foreign trade which are not affected by protective duties. Twenty years ago they were about 80 million pounds a year. Now they range near 90 millions. Their rapid growth is a sign and a measure of the growth of the carpet manufacture, which in turn reflects the extraordinary gain in material comfort secured by the American people in the last generation. The duty has made this source of comfort a trifle dearer than it would otherwise have been. It has been a simple revenue tax, not complicated by the existence of a competing domestic product. As a moderate tax on an article used largely by strata of the population which are not subject to excessive

taxation in other ways, it might be defended. As a matter of industrial policy, it is indefensible.

The retention of the duty on cheap wool after it had been imposed during the Civil War was probably due to the circumstance that, in the adjustment of 1867, the duty on carpet wool gave the manufacturers an opportunity of securing, under the guise of compensating duties, higher rates on imported carpets than they would have ventured to ask directly. In later years the framework of the act of 1867 has been retained, for fear that any break in it might endanger the whole structure. Notwithstanding the absence of any appreciable effect on the domestic wool-growers from the heavy importations of carpet wool, the eager champions of the growers have been restive under them, especially from the suspicion that wool imported in that class might be used for making cloths, as, in fact, some small fraction of it was. The wrangle between this element, on the one hand, and the carpet manufacturers, on the other hand, was particularly bitter in 1888-90, when the Republican policy on the tariff was crystallizing. The result in the act of 1890 was a compromise. The duty on carpet wool was made *ad valorem* instead of specific, being expected so to adjust itself automatically to the character and value of the fibre imported. The desire to placate the supposed representatives of the farmers, however, was so strong that the compromise was accompanied by various provisions intended to prevent evasion, and, in fact, serving to give importers and manufacturers unreasonable annoyance. As it stands in the act of 1890, the carpet wool duty is an ill-devised and ill-directed piece of legislation, unsuccessful in attaining its object of placating the farmers and indefensible on any of the grounds commonly taken in defence of the protective system.

II.

We pass now to the tariff on woollen manufactures. The variety in the duties is here much greater than with wool, and the complications of the industrial conditions are even more perplexing to the layman. Yet some of the more important aspects of the situation can be made out with clearness. It will suffice for their elucidation if we concentrate attention on the largest and most important branch of the industry,—the making of woollen goods for clothing.

As with wool, so with woollens, the framework of the act of 1867 has been retained intact. But the details have been changed more than has been the case with the raw material. And in the two revisions of 1883 and 1890 important advances in duty were made. It will be remembered that in the system adopted in 1867 a specific duty was imposed on all woollen goods, whose declared object was merely to make good to the domestic manufacturer the disadvantage of having his material taxed. Over and above this came the ad valorem duty, which was alone to protect him. The rate of protection stated in 1867 to be adequate was 25 per cent. The actual rate imposed was 35 per cent., the additional 10 per cent. being intended to offset the internal taxes then levied on the manufactures in various stages. Since 1867 this method of mixed duties, in which the specific rate is supposed to be simply compensating and the ad valorem alone to yield protection, has been maintained for every sort and quality of woollen article. But the specific duty has been shifted, upward and downward, in real or supposed correspondence with the variations in the wool duty. The ad valorem duty has also been moved, but always in the upward direction. Not only has the extra 10 per cent. been retained, notwithstanding the disap-

pearance of the internal taxes, but the rate has gone up to 40, 50, and even to 60 per cent. No part of the tariff system shows so plainly the change in temper between the Civil War and the present time among those asking protection. In 1867 it was thought necessary to minimize the apparent protection, and to demand but a moderate amount of "net" aid. Even in 1882-83 the advances in duty were not made prominent, and were combined with reductions to which attention was called emphatically. Not till 1888-90 was the doctrine of high and increasing protection openly and unflinchingly preached. The advances, both in 1883 and 1890, were made chiefly by splitting the duties; that is, by imposing a higher rate on the dearer qualities of goods than on the cheaper.

In considering the effects of this heavy and increasing protection, we may begin again by examining first the growth of production at home. On the progress of this there can be no such figures as to the annual variations of domestic production as were available in regard to wool-growing. We must rely mainly on the census figures, coming at intervals of ten years. These figures show, on the whole, a steady advance, but not a remarkable one, in the volume of the industry.

The opponents of the protective system have indeed sometimes found in them evidence of a positive decline of the manufacture, and have referred to this supposed loss, as they have to the decline in wool-growing immediately after 1867, in proof of the evil effect of the high duties on the very industries they were meant to help. The census figures as to the value of "woollen goods" of domestic make, for example, show a very slight gain from 1870 to 1880, and a positive loss from 1880 to 1890. But these figures indicate, in reality, not a decline in the industry as a whole, but a change in the methods of manufacture.

The discussion of wool duties and imports has already

involved some reference to this important change: the improvements in combing machinery and the larger and larger part which goods made from combed wool have taken in the woollen manufacture. Twenty years ago, when only wool of long staple could be combed, the "worsted" goods so made were commercially distinct from woollens, as they were kept distinct in the tariff classification. When combing machinery was applied successfully to wool of shorter and shorter staple, and much wool became available for the comb or the card at will, the distinction between woollens and worsteds became comparatively unimportant. In the United States the worsted manufacture, or rather the manufacture of woollen goods from combed wool, has gained what the manufacture from carded wool has lost. The former may indeed be said in one sense to be a creation of the tariff system. Before the Civil War there was virtually no combing machinery and no manufacture of worsted goods in the United States; and even in 1870 the industry was insignificant. It has developed with great rapidity in the last twenty years.

To get a fair test of the growth of the domestic manufacture of woollen goods as a whole, we must therefore take woollen cloths and worsteds together. Some general figures from the census returns may be grouped as follows: *—

<i>Value of Product, in Millions of Dollars.</i>		<i>Number of Employees.</i>	
1870 { Woollens, 151.0 } . . 173.0		{ Woollens, 77,870 } . . 90,770	
Worsted, 22.0 }		{ Worsted, 12,900 }	
1880 { Woollens, 160.1 } . . 193.6		{ Woollens, 86,504 } . . 105,304	
Worsted, 33.5 }		{ Worsted, 18,800 }	
1890 { Woollens, 133.6 } . . 212.8		{ Woollens, 79,394 } . . 122,994	
Worsted, 79.2 }		{ Worsted, 43,600 }	

It will be seen that there has been a steady growth, but not a remarkable one. Worsteds, taken alone, have indeed advanced at a very rapid rate, especially from 1880 to 1890; but the loss in woollens has reduced the rate of

*A comparison of the number of spindles and looms would have been more satisfactory; but the census returns, so far as published for 1890, make no separate enumeration of these for woollens and worsteds.

progress for the two combined. The increase in the stated money value of the output must be corrected somewhat for the depreciated paper money of 1870, when gold was at a premium of about 20 per cent. But the better test of the number of persons employed indicates that the correction on this score would not seriously affect the result, so far as the general rate of progress goes.

There is another indication of the development of the manufacture, in some ways more significant than the census returns,—in the quantity of raw material consumed. The domestic production and the imports (setting aside the carpet wool) give the total quantity of wool used in making woollens.

It will be remembered from what was said in the first part of this paper that the rapid growth of the domestic wool product swelled this total rapidly until about 1883; while of late years the growth has been slower, the increase in imports barely making up for the decline in the domestic supply. In interpreting these facts, regard must be had to the rapid growth of other branches of the wool manufacture, such as the making of felt goods, hats and hosiery and knit goods, of which the last mentioned more particularly has grown with very great rapidity since 1880. But the great bulk of the wool used goes into the making of woollens and worsteds, and the total consumption is a sufficiently good measure of the growth of these main industries.* For obvious reasons, it is a better measure

*The total quantity of the principal materials used in the making of woollen and worsted goods, in the census years 1880 and 1890, was as follows, in millions of pounds:—

	1880.	1890.
Wool, foreign	45.2	54.7
domestic	202.5	228.3
Total	247.7	283.0
Shoddy	46.8	54.5
Cotton	26.5	41.0
Total	321.0	378.5

Some consideration of these figures, and of the qualifications with which

than the money value of the goods turned out, since this has been lowered, for the same quantity of goods, by the decline in the price of wool and the improvements in machinery. Taking one test and another, the evidence shows a growth in the industry more rapid in the earlier part of our period than in the later, and, for the quarter-century as a whole, not more than moderate. The advance has not been so great as that in the most nearly related textile industry,—the cotton manufacture; and it is not to be compared with that in two other great protected industries,—the manufacture of silk goods and that of iron and steel. It cannot be said to give proof either of any striking gain, such as might be cited to show the stimulating effect of the tariff, or of any marked failure, such as might be supposed to show its harmful effect.

With the volume and rate of gain in the domestic product of woollens, we may compare the volume of the imports. In the custom returns, three important classes of goods are enumerated which need to be considered in making such a comparison,—woollen cloths, worsteds, and dress goods. The first two are mainly for men, the last for women. But, as it was most in accord with the essentials of the situation to class together the domestic woollens and worsteds as one, so it is best to attempt no separation between the imported cloths designated by these names. As to imported woollens and worsteds, the impossibility of maintaining a real distinction has been made the greater by an episode in the history of the woollens tariff which shows what pitfalls beset the framer of intricate systems of duties, and which may receive some brief consideration.

In the act of 1867 "worsted" had been put in the same class with a number of other manufactures of wool,

they must be used, will be found on pp. 10, 11, of *Census Bulletin*, No. 169, from which they are taken. The census figures tell the same story of moderate growth as is given in the text.

—flannels, blankets, yarns, and others. On these there had been not a uniform duty, but one graded by value. If the value of the goods was not more than 40 cents per pound, the duty was 20 cents specific plus 35 per cent. ad valorem; if between 40 and 60 cents, the duty was 30 cents specific, with the same ad valorem addition; and so on, the specific duty rising as the value rose, until finally worsteds worth more than 80 cents a pound were subjected to the same duty as woollens. This gradation of the compensating duty was introduced because of the common use of cotton as warp in making the cheaper qualities of these goods. A specific duty on the basis of the use of wool alone in all cases would have been admittedly excessive. In 1867, when worsteds, with other goods, were subjected to this system, the distinction between them and woollens was still clear. Moreover, worsted cloths for men's wear were not then made in the United States. In 1883, when the woollens schedule was overhauled, the distinction had been largely done away by the changes in machinery already described; at the same time, the domestic manufacture by the new methods had begun. Nevertheless, the tariff act of that year still enumerated worsteds in the paragraph with blankets, flannels, yarns; and the graded duties were maintained.

The consequence was unexpected. While worsteds worth over 80 cents a pound were dutiable at the same rate as woollen cloths, those worth less were subject to lower rates. The fall in the price of wool and the improvements in machinery enabled them to be put on the market at lower and lower prices; and a large importation ensued of worsteds valued at less than 80 cents, and so subject to a lower duty than that on woollen cloths. It was asserted that the goods, moreover, were fraudulently undervalued, so as to bring them within the lower class; and probably this cause contributed to increase the quantity that slipped in at the reduced duties. Certain it is

that there was a large inflow of cloths classed as "worsted" because made from combed wool, yet competing as effectually with domestic cloths as if they had been called "woollens." The manufacturers naturally were exasperated at this breach in the elaborate barrier which they had erected against their foreign competitors, and endeavored to secure a ruling at the custom-house by which these articles should be rated as cloths and subject to a higher duty. The Democratic administration of 1885-89 refused to make such a ruling. The Republican administration which succeeded in 1889 was more complaisant, and caused these goods to be classed as woollen cloths, and so charged with a higher duty. Consequently, for a year the customs returns show a sudden increase in the imports of cloths and a sudden decline in those of worsteds. An appeal to the courts, however, soon brought a judicial decision that "worsted" was used in the tariff acts in a specific technical sense, meaning cloths made from combed wool. Thereupon Congress, in 1890, passed a special act, in advance of the general tariff act of that year, by which "worsted" were made dutiable at the same rates as "woollen cloths"; and so the tariff was at last brought into accord with the industrial conditions.*

It may not be amiss to remark that this episode brings out not only the incongruities of this part of the woollens schedule, but a very serious defect in method,—the gradation of duties by the value of the article. The same practice was followed in other parts of the schedule, and especially in the duties on dress goods, where the finer qualities, distinguished by their value above a certain figure, were subjected to especially high duties. In the act of 1890 the method was applied in many other direc-

*The columns of the *Bulletin of the Wool Manufacturers* for 1886-90 are full of discussions of this subject, and print various arguments presented to the Treasury Department to show that worsteds ought to be classified as woollens. They contain, too, some curious inquiries as to the responsibility for the slip made in the act of 1883.

tions. Unquestionably, it offers temptations to the undervaluation of goods which are demoralizing to the importer's trade. A slight change in the custom-house value of the goods may bring a sharp change in the duties; and what between intentional fraud, the difficulty of appraising the value of such articles, and the inevitable tendency to manufacture foreign goods in such a way and at such a cost as just to escape high duties, the system of gradation in practice works like a game of chance in which the unscrupulous are sure to win.

To return from this digression to the subject in hand,—the imports of woollen manufactures and their relation to the domestic production. The greater part of the domestic product is of goods for men, with which the imported woollens and worsteds compete. There is also a considerable and growing manufacture of fabrics for women, which is met by the imported dress goods. Whether we look at woollens and worsteds as one group, or at these two and dress goods taken together, we find a steady stream of imports, and little indication of any decline in the inflow. The stated value of the imports rises in years of activity, and falls in years of depression; but over long periods it remains at very nearly the same level. That of woollens and worsteds varies between 10 and 15 million dollars a year; that of dress goods, between 15 and 20 millions a year. In these times of falling prices for the raw material and diminishing cost of manufacture, the maintenance of the money value of the imports at about the same figure indicates, of course, a considerable increase in quantity. Comparing the imports with the domestic product of woollens, we find the latter to be much the greater, and to supply much the larger part of the total consumption. Making allowance for the duties and other charges on imports, it may be said roughly that what the consumers paid in recent years for imported cloths, worsteds, and dress goods, taken to-

gether, was about thirty-five per cent. of what they paid for imported goods.* Relatively, the domestic product has gained on the imports in the twenty-five years, and now supplies a larger part of the total consumption than at the beginning of the period. But the gain has not been very great; and the unabated volume of the imports, in face of high and increasing duties, shows that, in large part at least, protection has here failed to secure the end immediately in view,—the substitution of the domestic for the imported supply.

So much as to the relative volume of domestic product and of imports. More significant for our purpose is the character of the goods which the community obtains in the one and the other of these two ways. If the domestic and imported woollens were of much the same sort, and were sold side by side in the market, we should have an important clew as to the effect on the public of the whole system of wool and woollen duties. But, in fact, the two are very different; and the differences are such as to leave us little satisfactory evidence on the real working of the protection given the woollen manufacture. Much the largest part of the supply of woollen cloths furnished by the American manufacturers is of the cheaper sort, worn chiefly by the less well-to-do, and bought by them commonly in the form of astonishing bargains in ready-made suits.† No such goods are imported. The foreign wool-

*The total imports of these goods in 1890 were valued at the custom-house at about 40 millions of dollars. Duties on them ranged from 70 to 90 per cent., and some allowance must be made for undervaluation and for shipping charges. The total money value which the imports stood for when they reached the first American hands was hardly much less than 80 millions. With this sum may be compared the census return of 212 millions as the value of the domestic product of such goods.

† In 1884 Mr. John L. Hayes, then secretary of the Wool Manufacturers' Association, wrote in their *Bulletin* (vol. xiv. p. 116): "The woollen manufacture of this country, although capable of producing commodities of the highest luxury, . . . is almost wholly absorbed in production for the masses. Nineteenths of our card-wool fabrics are made directly for the ready-made clothing

lens are of finer quality, bought mainly by those in easy circumstances, and more likely to be made into garments to order. The higher duties which were imposed on the more expensive qualities of woollens in 1883 and again in 1890 have indeed brought about of late years some isolated ventures in the domestic manufacture of finer cloths; but the competition with the importer is not yet very serious, and the line of demarcation between domestic and imported goods is still distinct. The same is the case with women's dress goods, which are the largest single item in the imports of manufactures of wool. There is a growing domestic manufacture of the cheaper and less attractive sorts. The dearer and finer continue to be imported, notwithstanding very high duties.

Thus, as to the bulk of American woollens, we have no certain test of the direct effect of the duties or the extent to which they operate as taxes on the consumers. The material of the clothes worn by the great majority of the community may be considerably dearer than the foreign article of the same quality, and yet be shielded from competition by the barrier of the high duty; or it may be no dearer at all. That the latter is the case has been often asserted by the advocates of protection.* But it is

establishments. The manufacture of flannels, blankets, ordinary knit goods, occupies most of the other mills engaged in working up carded wool. The dress goods manufactured are made almost exclusively for the million, the women of the fashionable classes supplying themselves by French importations." The quality of American wool and woollens has been improved since this was written; but that the situation remains in essentials as it was, see an article in the well-informed *Boston Journal of Commerce*, January 18, 1890.

* Thus, in a public statement addressed to the Secretary of the Treasury (Mr. Manning) in 1885, the Wool Manufacturers' Association said that the cheaper grades of woollens which supplied nine-tenths of the clothing of the male population were "sound goods," made of staple American wool, and, "considering their more serviceable character, practically as cheap as foreign cloths to their buyers abroad." This assertion of the more serviceable quality of the American goods is common, and leaves it clear that their price is higher, at least in appearance. As to quality, it is probably not true that they are a whit better. American cotton goods are usually better than foreign goods described under the same name; but woollens are not.

more than doubtful whether the duties are so innocuous and unimportant. The material of the goods in question is the staple American wool, with more or less admixture of cotton and shoddy. The wool, as we have seen, is probably somewhat dearer than similar material in countries admitting it free of duty; and by so much the domestic woollens must be dearer. But it is impossible to say with any exactness what must be allowed for this excess, representing the effect on the consumer of the wool duty alone. Whether the duties on woollens, taken by themselves, exercise an independent effect, must depend on the cost of manufacturing the material into cloth in this country as compared with foreign countries, and especially with England. How much this expense and the consequent difference in selling price vary in domestic and foreign mills, even the persons best informed in the minutiae of the trade would find it hard to say.

A certain answer to the question just suggested would be given only if both wool and woollens were admitted free of duty, and American and foreign manufacturers competed under equal conditions in a free market. Such a state of things is not likely to come at any time in the visible future. But free wool and a comparatively moderate duty on woollens are among the possibilities of the next few months; and the results of this change are not so difficult to forecast. A duty of 25 or 30 per cent. would probably leave much the greater part of the American woollen manufacture as it is. The lower price of wool would bring down the price of woollens. The easy choice in using foreign wool might have a further effect on the quality of the goods commonly made. No considerable importation of the cheaper grades of foreign fabrics would be likely to ensue.

As to the finer goods of which there is continued importation for men's use, and still more for women's, the situation is different. Here we have the certain proof

that the taxed article, whether imported or made at home, is raised in price by the full amount of the duty. The domestic product, to be sure, is not large in amount; and, while as a rule it is nominally cheaper, it is correspondingly less desirable, and able to maintain itself in the market only because the foreign competitor is so heavily handicapped. The same conditions which were assumed a moment ago—free wool and a moderate duty on woollens—would bring a large reduction in the price of those more luxurious and in many ways also more serviceable cloths. The fact that the American manufacturers, notwithstanding high duties continued during a generation, have been unable to secure any large part in the market, would seem to show conclusively that the cost of making the better cloths is much higher for them than for their English, French, and German competitors. A very low duty might be expected to wipe out this part of the woollen industry; while a duty of even 35 or 40 per cent. would make its future at least uncertain.

That this result would ensue, however, is emphatically denied by most of those who advocate an incisive change in the woollens schedule. It is urged, on the contrary, that the new system would stimulate rather than check the domestic manufacture of finer goods. The cause of the limitation of the industry as it stands now, is said to lie in the tariff restrictions under which the manufacturer labors in his choice of material; and the removal of the duty on wool is expected to enlarge the range of his operations. This prediction raises the questions most difficult to answer in regard to the effects of the present *régime* and the results to be expected from that impending.

Undoubtedly, it is true that the wool duty hampers the manufacture of the better goods much more than that of the cheaper, and offsets in good part the effective protection given the former. The fine wools, as we have seen, are not produced in sufficient quantity within the country,

and are imported largely from Australia. Here the specific duty on woollens is really needed for compensation; and, of the total accumulation of duties on the manufactured article, the specific portion is chargeable to the wool tariff alone. On some of the finer dress goods, the compensation in late years has probably been excessive; but on finer woollens and worsteds this has not been the case, and, indeed, on worsteds it was for a time probably not enough to offset the wool duty. On the goods commonly made in the United States, however, the specific duty has always been needlessly large, and has made the real protection much higher than the nominal ad valorem rate. The higher net protection so given is sometimes supposed to have brought higher profits to the makers of the cheaper goods, and to explain the commanding place they have in the domestic manufacture. But the explanation has little support from general reasoning or from experience. *A priori*, in an industry divided among many establishments and presenting hardly a possibility of combination, competition might be expected to prevent any permanently heavy profits, even though duties were very high; and, in fact, the period immediately following the imposition of the higher duties of 1867, in which large gains might conceivably have been reaped, happened to be one of depression and discouragement. The higher protection of the cheaper woollens simply made the duties on them more effectually prohibitory, and veiled more completely their real incidence and effect. On the other hand, so far as the finer goods are concerned, the duties, even after setting aside the specific part as of no advantage, have still been high enough to give substantial encouragement. The specific duty would seem at least to have performed its function of making good the damage caused by the wool tariff; and there remains the ad valorem rate of 35, 40, now even 50 per cent. This is still a heavy rate of protection; and the question recurs, Why have twenty-

five years of heavy protection brought about so insignificant a development in the manufacture of the finer goods?

The necessity of the freest choice of material, and the hampering effect which, notwithstanding every effort at compensation, a restriction in the selection of wool exercises, have been dwelt on with such emphasis, both by the advocates and the opponents of the existing system, that the layman must admit the weight of this factor in the situation.* With wool on the free list, manufacturing would be carried on under conditions so fundamentally different from those of the present that a complete overturn cannot be declared impossible or even highly improbable. It may be, as we are told so confidently by those who find in the present system a cause of ruin to the wool industry, that no measure of compensation, devised though it be by the manufacturers themselves, can prevent the duty on the raw material from embarrassing them. The whole system established in 1867 has been described again and again in the columns of the *Bulletin of the Wool Manufacturers* as unsatisfactory in

*See, for example, the report of the wool manufacturers to Secretary Manning in 1885, printed in the *Bulletin of the Wool Manufacturers*, vol. xv. pp. 213-216. Compare the weighty remarks of Mr. E. O. Page in an excellent pamphlet on *The Woollen Tariff*, reprinted from the *American Wool and Cotton Reporter*, 1893. The most emphatic assertion from the other side of the evil effects of the wool duty comes from Mr. J. Schoenhof, especially in *The Destructive Influence of the Tariff*.

Mr. Page, in the pamphlet just cited, says: "I fear many manufacturers do not fully realize even now how much improvement and economy is to be accomplished by making their goods from a mixture of the stocks most exactly suited to the qualities the goods are to possess instead of from the makeshifts which our meagre market has hitherto afforded. I have been shown in an English wool manufacturer's house a mixture or blend of no less than fourteen distinct and different varieties of wool, from which is made a simple woollen fabric in which at home no more than two or three qualities are used. . . . It cannot be denied that the virtual prohibition of the use of two-thirds of the world's wools to the American manufacturer during thirty years of tariff discrimination has deprived him of the knowledge necessary to success in this most important branch of the manufacture [the selection and mixture of wool]."

itself, and submitted to only because the retention of the duty on the raw material was essential to the maintenance of the protective policy as a whole. In the face of such statements, it must be admitted to be possible that the privilege of using at will any and every quality of wool, which has been virtually denied the domestic manufacturers for a generation, may enable them to turn out many sorts of goods, fine as well as cheap, at prices which will enable them to meet foreign competition with the aid of but a moderate duty.

On the other hand, there is a line of reasoning which points to less optimistic conclusions. In general, it may be laid down that American producers cannot hold their own in competition with foreign unless the labor and capital applied by them are more efficient,—unless they have a comparative advantage in production. To the individual business man this is the obvious consequence of the higher range of wages in the United States. Paying higher money wages, the manufacturer must be undersold by his foreign competitor unless the labor he employs is more efficient in proportion to its greater expense. For the community at large the higher range of wages simply means that industry in general is more productive; and the inability of any one branch of industry to maintain itself because its competitors abroad can get labor cheaper, indicates that the productive forces are applied to less advantage here than in branches which are not affected by such competition. So far as manufacturing industries are concerned, the evidence is ample that a wide range of them possess a comparative advantage, and would maintain themselves without the aid of duties. The cause of advantage may be greater cheapness of the material, or greater opportunity for the exercise of discretion and intelligence by the workmen, or greater ingenuity in the machinery and methods of the business leaders, or all these combined in greater or less degree. Usually,

the cause of advantage is that the American industry has taken the lead in the advance of the arts, and is superior to foreign rivals in inventions and labor-saving appliances.

Examining the woollen manufacture from this point of view, we find occasion for doubting whether the *régime* of free wool will so affect it as to bring the necessary conditions of comparative advantage. So far as the present writer is informed, the Americans hitherto have followed rather than led in it. The new inventions, the improvements, have been first made abroad, and in this country have been imitated more often than carried to further perfection. This is more especially the case in the worsted manufacture. In making cloths from carded wool, it is said that there is no superiority in machinery abroad; while here, as in the cotton manufacture, the mechanism of the loom seems to have been carried to its highest perfection by Americans. Yet, on the whole, there seems to have been little of that revolutionary enterprise which has been shown in other directions. In the making of boots and shoes, of fire-arms, of sewing-machines, of hardware generally, of wooden ware,—to mention only some of the most conspicuous cases,—American producers have come to the fore, without any aid from protection. In other industries much affected by the tariff, as the manufacture of silks and of steel, there has yet been a marked initiative and a promising boldness in new methods and new machinery. In the woollen manufacture such independent advance is little heard of. We need not accept as typical of the situation the stories of second-hand and discarded English machinery bought for use in American mills. Such cases can be only sporadic. But there is no indication that Americans have taken the lead. The manufacturers themselves inform the legislature that "it is the one textile manufacture in which it has not been possible as yet for Yankee ingenuity to excel the products of countries which have been engaged for centuries in devel-

oping the industry."* The greatest single change of recent times has been the perfecting of combing machinery,—the last stage in the long process by which the hand-comb of older days has been supplanted by the modern machine-comb; and this advance was achieved in England and on the Continent.† We are often told that American mills are as well equipped as English, but few venture the assertion that they are better equipped. In one direction only is there evidence of marked initiative and superiority among Americans,—in the carpet manufacture,—where, before the Civil War, a great inventor put the industry in the United States on a new and independent basis.‡

Further, there is ground for saying that, so far as finer woollen goods are concerned, the conditions are not favorable for a triumph of Yankee invention and ingenuity. In the testimony given before Congressional committees we encounter again and again the statement that finer woollen goods call for more labor and a larger proportion of labor cost than cheaper goods and than manufactures generally. This means, when translated into the language of economists, that previous labor embodied in machinery plays a less part, and direct labor in guiding the machin-

* This is the language of the brief laid before the Ways and Means Committee by the National Association of Wool Manufacturers in September, 1893.

† The history of this typical change in manufacturing art can be followed in the pages of James's *History of the Worsted Manufacture in England* (1857) and Burnley's *History of Wool and Wool Combing* (1889).

‡ I refer to Mr. E. R. Bigelow, the inventor of the power-loom for carpets, known to economists as the author of an able defence of the protective policy, *The Tariff Question* (Boston, 1862).

I have said nothing in this paper of the carpet manufacture, the next most important branch of the woollen manufacture after woollen and worsted cloth. The imports of carpets have practically ceased. The domestic production is enormous, and commands the field. The duties have been so long prohibitory that there has been no possibility of effective comparison of the price and qualities of foreign and domestic carpets. The indications are that the carpet makers can face lower duties with as much confidence as any among the woollen manufacturers.

ery or manipulating the material plays a larger. In making finer woollens, we are told the raw material must be more carefully sorted, selected, and prepared. The machinery can run at less speed and less continuously. The operative must stop it more often to repair the thread and insure the nicety of every stage in spinning and weaving. The cloth must be more laboriously gone over for imperfections. These conditions are not favorable for the rapid action, the continuous use of machinery, the economy of direct labor, by which American mechanical genius has achieved its greatest results. In making cheaper woollens, we are told that production can be more automatic, and that American mills run their machinery faster than European. Such a difference suggests that the manufacture of cheaper woollens would meet foreign competition more easily than that of finer.

The conditions are similar in the cotton manufacture. There it seems to be certain that the cheaper grades of cotton goods, which form by far the most important part of the industry, can be made as cheaply in the United States as in any foreign country, notwithstanding the higher wages bill; partly because the material is cheaper, partly because methods and machinery are better. Finer cottons, on the other hand, are more cheaply made abroad, because, in the language of the business man, they entail a larger proportion of labor, which means, again, that labor embodied in machinery can supplant in less degree the application of immediate labor. In both these great branches of the textile industries, we thus find indications that, in the present state of the arts, the making of the more expensive grades of goods presents conditions not the most favorable for mechanical ingenuity and success, and so not promising for the American producer when exposed to unhampered foreign competition.

Whether free wool will vivify the whole woollen manu-

facture; whether a sharp reduction of duties on woollens will prostrate it; whether some parts will prosper while others go to the wall,—all this the event alone can tell. The more conversant the unbiassed searcher for truth becomes with the facts of the situation, the more must he hesitate to accept any one of the confident but contradictory predictions as to the outcome of radical changes. But it seems to be reasonably clear that such legislation as is likely to come in the visible future will not work any catastrophe. Free wool, with a duty on woollens ranging somewhere between 25 and 35 per cent., would enable the bulk of the woollen manufacture to hold its own, and would give the rest at least a fighting chance. The first effects of a radical change could not but be unsettling, especially with the process of experimenting which must be gone through before it can be known what changes in the price and selection of wool will result from its free admission. In view of the novelty of the conditions which will confront the manufacturers with wool free, it might be the part of sound policy to make the duty on woollens somewhat higher at the outset than it was proposed to make it when the lapse of a year or two had enabled them to see what the situation really proved to be as to their raw material. After a season or two of such transition, it will be more plain what the new *régime* will really bring; and then only can we know what the *régime* of the past had been doing.

Meanwhile, wool will be somewhat cheaper, and woollen cloths will be cheaper, too, though in varying and uncertain degree for different sorts. The consumer cannot fail to secure some degree of advantage; and those who believe that he is the main person whose welfare the legislature is called on to consider in matters of tariff policy, can look forward to the coming changes with confident expectation of some solid gain.

F. W. TAUSSIG.

THE PLACE OF ABSTINENCE IN THE THEORY OF INTEREST.

RECENT discussions have reduced the theory of value to an equilibrium between marginal cost, on the one hand, and marginal utility, on the other. Nothing is more fundamental in economic science than that the two elements of cost and utility are both necessary to the existence of value. So much has uniformly been held since the beginnings of Political Economy. The special service of the marginal utility theory has been to point out the way in which these two factors co-operate to fix value. By reducing to a common subjective basis those two unlike things which older economists had tried to balance against each other,—namely, demand and supply,—this new theory has done much to give harmony and logical consistency to economic science. Value, however, is not the only economic phenomenon to which the time-honored law of demand and supply has been applied. Interest and wages are so intimately connected with the conception of value that they are of necessity affected by the same principles which determine value. To these questions the law of demand and supply has been applied as rigorously as to the question of value. Nothing would be more readily admitted by all economists than that, if capital increases and the demand for capital decreases, the rate of interest will fall, and *vice versa*.

It is not so generally admitted in the case of interest, however, that the demand and supply are themselves regulated by the same principles which regulate them in the case of value. According to the new theory of value, if the desire for a commodity remains the same, but the production of it, through mechanical improvements or for

other reasons, becomes cheaper, the supply will increase until the marginal utility of the commodity is reduced to a level with the marginal cost or disutility of its production.* If, on the other hand, the conditions of production remain unchanged, and, through the acquisition of a higher standard of life, the desire for the commodity increases (which means that a given quantity of the commodity satisfies a more pressing want than before), the marginal utility will be raised and production will increase until the increased marginal cost again balances the marginal utility. The value of a commodity according to this theory is simply its marginal or effective utility.

To have a correct understanding of the nature of interest, we must first get a clear understanding of the nature and function of capital. Especially must we have a clear conception of the distinction between capital and wealth. It is doubtful if any improvement can be made upon the classical conception of capital as that portion of produced goods *saved* to be devoted to purposes of further *production*.† This, so far as the question of interest is concerned, is all that is implied in the term. Capital, according to this definition, is produced by an act of saving. In other words, portions of the general fund of wealth only fall into the category of capital by having their consumption deferred, in order that they may assist in producing more wealth.

When we speak of the cost of production of consumption goods, we mean the disutility or sacrifice involved in bringing them into shape for consumption. This disutility is measured by value, or, if we seek a money measurement, by price. But with capital goods a new element enters into the cost of production; namely, the disutility of abstinence. While, as general economic goods, they have their price to compensate for their cost of production, yet,

* This, of course, supposes competition.

† That is, production from the individual standpoint.

as capital goods, interest serves to compensate for the sacrifice of deferring their consumption till the future. When we speak of the utility of consumption goods, we mean their capacity to satisfy wants. But the distinctive utility of capital goods is to increase the quantity of consumption goods. Interest likewise measures this distinctive utility of capital goods, just as exchange value expresses the general effective utility of consumption goods. The cost of production of capital, as distinguished from wealth, is, therefore, abstinence; and its utility is its productivity, or the surplus of want-satisfying power which its possession affords above its cost. If we keep the distinct conception of capital as the result of saving, we shall have no difficulty in seeing that its distinctive cost of production is whatever sacrifice is involved in the act of saving, and that its distinctive utility is its ability to produce a surplus. We may observe that the amount of disutility of saving depends largely upon the cost of production of consumption goods. Where industrial processes are unadvanced, and the disutility of producing consumption goods is great, such goods are likely to have a high marginal utility, and it will cost a high degree of sacrifice to abstain from the consumption of goods which supply such pressing wants. Or, looking at it from another standpoint, it will cost a high degree of sacrifice to turn part of the productive force from the production of things for consumption to the production of things to be used in further production. Where present wants are pressing, it costs a high degree of sacrifice to defer their satisfaction to the future. If, on the other hand, industrial methods are advanced, if production is cheap, and if marginal utilities are low, present wants will not be pressing, and a certain amount of saving can take place with little or no sacrifice.

Walker's primeval fisherman (*Political Economy*, third edition, chap. iii.) would endure a much greater degree of abstinence while making his canoe if fish were scarce

than if they were abundant. If fish were scarce, it might require all his time to catch enough to supply his daily needs. Under such circumstances it would cost him a severe privation to spend a part of his time in making himself a canoe. In order to induce him to do so, he would have to be assured of a considerable increase in his catch by means of the boat. In other words, he would not undergo the present heavy sacrifice to produce capital unless his capital were highly productive. But, if fish were so abundant that he could supply his present wants tolerably well by working only half his time, he would probably take time to make a canoe for the sake of a much smaller proportional addition to his catch.

Interest, as we hope to show, is the price that measures the marginal productivity, on the one hand, and the marginal cost or sacrifice, on the other. It ought to be clear that, were either the elements of cost or productivity lacking, interest would be as impossible as value with either cost or utility missing; but it is not clear to some. But, meanwhile, it must not be forgotten that it is only marginal productivity and sacrifice in the one case and marginal utility and cost in the other that determine either interest or value.

Many of the writers on interest who have gone below simple demand and supply may be put into one of two general classes: 1. Those who hold that interest is paid because capital is productive; 2. Those who hold that it is payment for abstinence or the sacrifice of saving. When we read the arguments of the one class, we cannot see but that they are right. When we undertake to find fault with the arguments of the second class, we find it a difficult matter to point out their fallacy. The conclusion almost forces itself upon us that both are right. Under such circumstances we shall do well to ask if there is any real contradiction between them. We shall probably find that both theories are in part true, and, moreover, that

each is an essential part of the other; that neither can account for interest without the help of the other.

Professor Böhm-Bawerk's theory of interest, while ostensibly an attempt to reduce the whole interest problem to the one element of abstinence, or the discounting of the future, really contains the productivity theory under a new form.* In his theory of the profits arising from an extension of the productive process † we can scarcely fail to recognize the old productivity theory under a new form. Nevertheless, the attempt to reduce the productivity of capital to the same terms with abstinence, by showing that both result from the fact that men discount the future, is to be admired both for its suggestiveness and its profundity. With certain corrections, which will be noticed later, his theory may be regarded as correct; but it is to be hoped that the interest problem can be explained upon principles more easily understood by the average reader.

Under "naïve productivity theories of interest" Böhm-Bawerk naïvely suggests ‡ that the theory that capital produces a surplus value rests upon the mere empirical observation that the employment of capital is followed by a surplus value, and that this fact does not necessarily prove that the employment of capital is the *cause* of the surplus value. Without going into a metaphysical discussion of the relations of cause to effect, may we not venture to suggest that, for economic purposes, the fact that a surplus value does follow the use of capital amounts to precisely the same thing as though the capital were, in an unequivocal sense, the cause of the surplus value? To the borrowing classes the fact that the possession of capital affords them a surplus value furnishes the same motive as though the capital could, in a biological sense, reproduce

*See F. A. Walker, "Dr. Böhm-Bawerk's Theory of Interest," *Quarterly Journal of Economics*, July, 1892.

† *Positive Theory of Capital*, Book VI. chap. iv.

‡ *Capital and Interest* [Smart's translation], p. 133.

its kind. What they want is this surplus value: it is immaterial to them whether it follows as a result of, or as an incident to, the employment of capital. So long as the acquisition of this surplus value is conditioned upon the possession or control of capital, interest will be paid. By admitting that a surplus value follows the employment of capital, all is admitted that those who hold to the productivity theory will be disposed to claim.

But, while men are willing to pay interest for capital to assist them in securing a surplus value, it is only for a limited amount. The operation of the law of diminishing marginal productivity limits the amount of capital which any individual can afford to employ at a given price. The same is true of all those engaged in the production of any given commodity. The tendency is to increase production until the diminished price of the commodity is just sufficient to pay the costs of the last increment. Since interest is a part of the cost of production, it follows necessarily that the amount of capital employed at a given rate of interest must be limited, and that the limit having been reached, other things remaining the same, if more capital were brought into that occupation, interest must fall, because the productivity of the added increments is less than that of the preceding. What takes place in an individual industry may be applied to industrial society in general. We therefore come to the conclusion that an essential part of the productivity theory is the idea of marginal productivity,—an idea so well developed by Professor Clark.* If the rate of interest throughout the entire industrial field cannot rise permanently above the productivity of the last increment of capital, and if the marginal productivity of successive increments of capital tends at any given time to decrease, it follows that, other things remaining the same, an increase of capital will

* "Capital and its Earnings," *Publications of the American Economic Association*, 1888.

be accompanied by a fall in the rate of interest, and *vice versa*.

We now come to the difficulty that confronts us in attempting to account for interest on the productivity theory alone. It follows from the foregoing conclusions that, if capital were to increase in an unlimited measure, marginal productivity would be destroyed. If, as indicated above, the rate of interest cannot rise above the productivity of the last increment of capital seeking employment, and if the productivity of successive increments of capital, under given conditions, continually decreases, it follows that, if a sufficient number of increments are put on the market, marginal productivity will finally reach the zero point, and no interest will be paid. It is conceivable that there might be a society with such a superabundance of capital that no more could be profitably employed at any price. Under such conditions there could be no true interest. Whatever might in individual cases be paid by the borrower of consumption goods would be payment for risk, and partake of the nature of insurance. Now, what is it that keeps capital from accumulating in such abundance? *Were there no sacrifice to balance the advantage accruing from the receipt of interest, would not capital accumulate, and be offered on the market even at the lowest conceivable rate of interest?* If it is a matter of complete indifference to me whether I consume a certain amount of my wealth to-day or next year, I shall surely save it till next year, if meanwhile I can either employ it profitably myself for purposes of further production or lend it at interest to some one else who can.

Some confusion has previously arisen by restricting the term "interest" to that which is actually paid from one man to another for the use of capital. This view overlooks the fact that interest forms an element of cost when the entrepreneur owns his own capital, just as when he hires it of some one else. In view of this fact, we may avoid con-

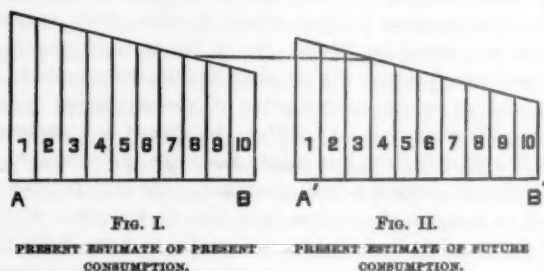
fusion if we agree, for the purposes of this discussion, to use the term "interest" as synonymous with the profit, or objective surplus, arising from the employment of the last increment of capital. It is only in this sense that interest can be said to enter into cost of production. If this is borne in mind, it will save us the confusion that might otherwise result from the apparent shifting from one standpoint to the other during the remainder of this paper.

It must be borne in mind that not all saving involves sacrifice. There would be some saving, were there no interest or objective surplus arising from the employment of capital. It is even probable that a considerable amount would be saved if, instead of savings affording a surplus, men were obliged to pay rent for vaults in which to store them or even to hire others to take their surplus wealth and use it for them. In so far as it is true that men estimate present higher than future consumption, it only applies to the consumption of corresponding increments of income. A man with an income of ten thousand dollars a year derives less utility from the consumption of the last than from the first thousand. He may receive so small an amount of pleasure from the consumption of the last thousand dollars that he will prefer to save it for the purpose of satisfying a more pressing want in the future.* It is upon this principle that men lay up for a rainy day or for old age. This may be illustrated by the diagram on the following page.

In Figures I. and II. let the amount of a man's income be measured along the horizontal lines AB and $A'B'$. Let the utility of different increments be represented by the perpendicular lines, those in Figure I. representing the present utility of present increments of goods, while those in Figure II. represent the estimate which we now put upon the utility of the same or equivalent increments of

*For this, as for several other suggestions, I am indebted to Professor J. B. Clark's lectures at Johns Hopkins University in the fall of 1892.

goods a year hence. In other words, we discount the future at a rate corresponding to the ratio between the perpendicular lines in Figure I. and the corresponding lines in Figure II. It is evident, then, from the diagram that increment No. 10 would be saved, in order that it might be applied to the satisfaction of want No. 1 in the future. Similarly, No. 9 of the present would be saved because No. 2 of the future is higher. The same may be said of No. 8 of the present because it does not quite come up to No. 3 of the future. But here saving would stop; for there would be a loss in abstaining from the consumption of No. 7, in order to apply it to No. 4 in the future.



This diagram, it will be understood, only illustrates a certain social tendency. In a less advanced stage of society than that to which we are accustomed the difference between the estimations of present and future would be greater than under present conditions. Even in present society there are those to whom the future seems to offer small inducement for present frugality. On the other hand there are those in whom the instinct of saving is so strong that they seem to begrudge themselves present satisfaction, and that, too, without much thought of future consumption, but simply to gratify their desire for accumulation. But the normal tendency is probably illus-

trated by the man who looks forward to the time when he will have greater wants to supply on account of a growing family, or the hope of some time having a growing family to provide for, and who also looks forward to the time when age will begin to tell upon his powers, and the same income will have a larger marginal utility, owing to the increased pain of producing it. Neither in the case of this man, nor in that of the miser, is there any true sacrifice connected with saving. His capital costs him nothing; *i.e.*, it cost him nothing to transform a certain portion of his wealth into capital. That amount which a man would save, whether there were interest or not, is not saved at a cost. As capital, it is not produced at a cost, unless this cost be in the form of risk, which may be involved in its employment in production.

If only so much were needed to carry on industry,—*i.e.*, if so much were sufficient to bring down the marginal productivity to the point where it would just pay the capitalist for his risk,—there would be no true or net interest. But, if more is needed,—*i.e.*, if more can be used, and still afford profit at the margin,—it must be paid for, because to save it requires sacrifice from somebody.* Returning to our illustration, if increment No. 7 is required, it will be saved at a loss, because its present utility stands higher than our present estimate of the utility of No. 4 in the future.

In this connection appears a possible correction to Böhm-Bawerk's theory, according to which interest must equal the amount by which men discount the future, or the difference between the value of present and of future goods. The statement that "present goods are, *as a rule*, worth more than future goods of like kind and number," † would carry with it the statement that a dollar now is

* See Marshall, *Principles of Economics*, first edition, vol. i. Book VIII. chap. vii. § 4.

† *Positive Theory of Capital* [Smart's translation], p. 237.

worth more in present estimation than a dollar a year hence. If we eliminate the element of risk, as he expressly states that we must do, it can scarcely be said to be true that, *as a rule*, a dollar is worth more to-day than a year hence.

Of the wealth in the possession of society to-day it is altogether probable that the greater part would be saved for more than a year, even if there were no objective surplus to be secured by so doing. In other words, so far as concrete goods are concerned, their future value is sometimes greater than their present, because they are expected to supply a more pressing want in the future than it is possible to apply them to in the present. In such cases there is a high reward for saving in the anticipated future increase in the subjective utility of the goods. This class of goods may be called the first increment of capital saved. It is that portion which would be saved even if its owners should be compelled to hire vaults, at an objective cost, in which to store it. The second increment may have a lower anticipated future increase of utility than the first; but its future utility may still be estimated just as highly as its present utility, while the saving of the third involves a positive sacrifice, because its future subjective utility is estimated as lower than its present, that of the fourth still lower. In this case, the decrease of subjective utility must be compensated for by an increase in objective goods. It is not the difference in the general estimation of present and future goods which fixes the rate of interest, but only the difference in the estimation of the present and future value of the last increment of goods saved.

If in Figure III. we let the angle of descent of the line A C''' represent the rate at which, according to Böhm-Bawerk, men discount the future, and let the line A B represent the present value of a commodity, the line C B' would represent our present estimate of its value a year

hence, $C' B''$ its estimated value two years hence, and so on. According to this theory, one year's interest ought to equal the dotted line $A' C$, two years' interest the dotted line $A'' C'$, and so on.

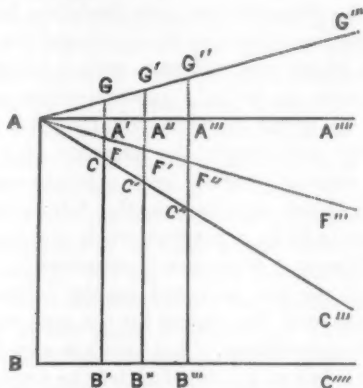


FIG. III.

In the first place, as suggested above, it is not correct to speak of a general discounting of the future use of commodities, or concrete goods. In a great many cases, the future use of a commodity is estimated higher than its present use, because present wants are so well supplied that the marginal utility of present consumption is very low. Suppose, for example, that you have one hundred dollars in your pocket. You can spend it all to-day on your dinner; and you might, could you forget the future, get some satisfaction out of the consumption of the last dollar. But you do not forget the future; and the amount of pleasure which you could get out of the expenditure of the last ninety-nine dollars and fifty cents is so small that you prefer to save it, in order that you may enjoy a series of ordinary dinners in the future. You would save it, were there no interest to be had. In fact, if you could

not keep it yourself, you would hire some one to keep it for you rather than consume it now. Yet, if you choose to lend it, you can get just as much interest for it as though it had cost you a heavy sacrifice to abstain from consuming it. Nevertheless, you doubtless have a more vivid appreciation of present than of future wants. There is a point at which you will stop saving, because you do not expect ever to be in a position when an ordinary dinner will be worth more to you than it is now. You will probably not forego the pleasure of a fifty-cent dinner and content yourself with a fifteen-cent lunch, in order to be better provided in the future, because you never expect to be in a position when you cannot afford a fifty-cent dinner. Were you a spendthrift, you would probably not hesitate to spend several dollars on expensive delicacies and fine cigars for the same reason. The spendthrift's appreciation of the future is very low. Your case may be taken as typical of society as a whole. There is a certain point where, were there no interest or profits from the use of capital, saving would cease. That point would be where men balanced present against future consumption; in other words, where the subjective utility of present and of future goods is equal in present estimation. But if the use and employment of capital becomes productive, and the amount of capital in existence under these conditions were not enough to bring its marginal productivity down to the zero point, there would be a demand for more capital. In order to get it, interest in the form of an objective surplus would have to be paid to induce men to save more. This would be the case whether we assume a distinction between the capitalist and the entrepreneur, or that the entrepreneur is his own capitalist. In the latter case, the entrepreneur would count his abstinence as a part of the disutility or cost of production, and would reward himself for it. Consequently, interest does not correspond to any general discounting of future con-

sumption of commodities, but only to the marginal discount or to the marginal sacrifice of saving. It must be sufficient to compensate the capitalist for saving the last increment of capital.

This also may be illustrated by Figure III. Of the first increment of goods saved, let the present value be represented by the line AB . The present estimate of its value a year hence by $G' B'$, two years hence $G' B''$, etc. Of the second increment, the present value is AB . The present estimate of its value a year hence is represented by $A' B'$, two years hence by $A'' B''$, etc. Of the third increment saved, the present value is represented by AB , the present estimate of its value a year hence by $F B'$, two years hence by $F' B''$, etc. Were this the last increment saved, one year's interest for all increments would correspond to $A' F$, two years' interest to $A'' F'$, etc. But the fourth increment has a present value corresponding to AB , and an estimated value one year hence corresponding to $C B'$, two years hence corresponding to $C' B''$, etc. Since this is the last increment saved, one year's interest throughout the field would correspond to $A' C$, two years' interest to $A'' C'$, etc. The loss in the subjective valuation of this last increment must be compensated for by an increase in objective goods or interest. It is a characteristic of the market that interest tends to become equal throughout the field. All capital will therefore be paid for at the same rate as the most expensive increment. This affords a true surplus or rent,* as will be noticed later.

If, however, it is intended to apply Böhm-Bawerk's theory to the difference with which we estimate present and future wants (as illustrated in Figures I. and II.), it is again found to be faulty. Men seldom abstain from the satisfaction of a want, in order to be able at some future time to supply the same or a corresponding want.

*This is a common abuse of the word "rent," but there seems to be no better term.

In the case of those wants which we leave unsatisfied for the express purpose of getting interest, the interest does not pay for the difference with which we estimate the present and future satisfaction of the particular want which is forestalled. Let us return to Figures I. and II. If increment No. 7 were saved, the sacrifice would not correspond to the difference between No. 7 of Figure I. and No. 7 of Figure II., but to the difference between No. 7 of Figure I. and No. 4 of Figure II. If in Figure III. we let the descending line $A C'''$ represent the rate at which we discount future wants, the rate of interest would correspond to those portions of the perpendicular lines which lie above some such descending line as $A F'''$ rather than to those portions which lie above $A C'''$.

As already stated, a considerable portion of the capital has involved no sacrifice in the act of saving. Were this supply sufficient to bring the marginal utility down to where it would just balance whatever risk the capitalist undergoes in lending or employing his capital, no true interest would be paid. A larger amount of saving would cut into more pressing wants, and involve a sacrifice. Men will not undergo this sacrifice unless they are paid for it. This gives rise to interest, which then becomes an element in the cost of production. As an element in the cost of production, interest would probably exist under a socialistic state. Whoever should abstain from consumption, in order that society might have the requisite capital to carry on the industrial process, would have to be compensated in some form or other. If society, as a whole, voluntarily set aside a certain portion for such purposes, society as a whole would bear the burden, and expect to be rewarded by an increased production. The only thing avoided would be the phenomenon of one individual paying interest to another. However, it is conceivable to the socialists that by the superior productiveness of the socialistic organization goods would become

so abundant that their saving would cost no sacrifice. It is likewise conceivable that such a state may yet be reached under the present system, though it remains an open question whether such a condition is to be desired. It might mean a number of different things, such as a lowering of the standard of living or a blocking of the wheels of industry from any number of different causes.

But abstinence is not the only sacrifice involved in the lending or the employment of capital. At present there is always more or less risk involved. Marginal productivity must be sufficient to compensate for both risk and marginal abstinence, for both are combined in the sacrifice of the capitalist class. For the present, therefore, we make no distinction between the interest paid and the surplus arising from the employment of the last increment of capital. Under static conditions they would be equal. Under present conditions so much the greater part of the capital upon which interest is paid is employed in production that the price is fixed by that portion. It controls the market just as the price of several commodities is fixed throughout this country by the price at Liverpool. The fact that interest is sometimes paid on consumption goods only indirectly affects the rate of interest. An increase in the amount borrowed for consumption, other things remaining the same, decreases the amount that can go into productive processes. This would raise the marginal productivity and the rate of interest, just as a sudden increase in the amount of pork or wheat consumed in this country decreases the amount that can go to Liverpool and raises the price there.

Perhaps a better idea of the place of abstinence in the theory of interest can be obtained if we use the diagram on page 56 as an illustration.

In Figure IV. let the amount of capital in the industrial community be measured along the horizontal line *A C*, and let the productivity of capital be measured along the

perpendicular line A E, and let the descending line E C represent the rate of decrease in the marginal productivity of capital. If the amount of capital were measured by A D, the marginal productivity and the rate of interest would be measured by A F. If the amount of capital were measured by A D', the marginal productivity would, other things remaining equal, be measured by the line A F'; and, when the amount of capital equalled A D'', marginal productivity would equal A F''. From this it follows inevitably that, if capital went on increasing to A C,

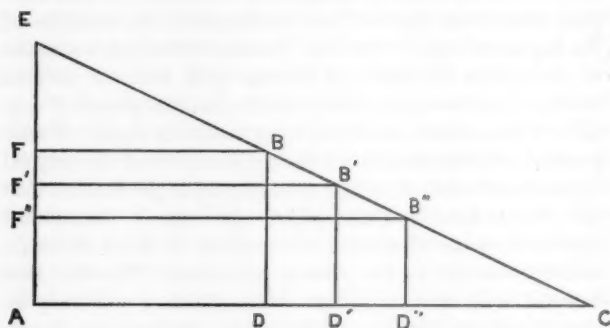


FIG. IV.

marginal productivity would be destroyed, and no interest would be paid. As above stated, were there no sacrifice connected with the accumulation of capital to offset the advantage accruing from the receipt of interest, capital would go on accumulating until the descending line E C approached indefinitely near to the line A C. But here the work of abstinence is seen in placing a limit upon the supply of capital before the point of no marginal returns is reached. Under static conditions saving will continue until abstinence plus the risk to the capitalist of saving the last increment is just balanced by the advantage de-

rived from the employment of the last increment of capital.

In Figure V. as in Figure IV. let the amount of capital be measured along the base line A C, and the productivity upon the perpendicular line E H, with the point A at zero, and let the descending line E C represent the rate of decrease in marginal productivity. Now let us also measure the cost or disutility of saving on the perpendicular line E H, with the point A as zero, and let the ascending line H G represent the rate of increase of marginal sac-

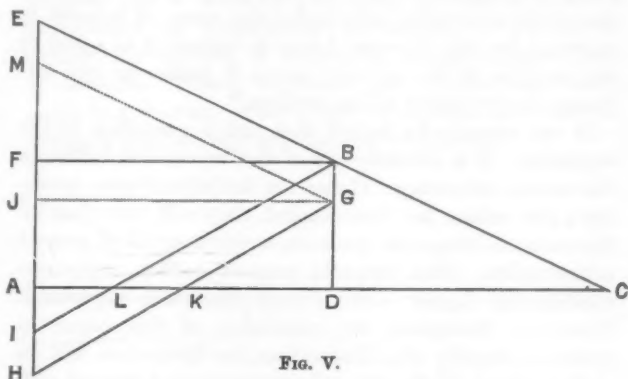


FIG. V.

rifice of abstinence. A quantity of capital equal to A K would be saved before any sacrifice at all were felt. But from this point the sacrifice increases until at point D the sacrifice of saving amounts to G D: net interest would therefore be measured by the line A J. Risk does not necessarily increase as saving advances, so the risk at the margin is measured by the line B G. Then total interest would be represented by the line B D or A F. It is when this total sacrifice of abstinence and risk equals the marginal productivity that saving will cease. In the illustration the capital in the industrial community repre-

sented would be measured by A D, marginal productivity and marginal sacrifice by B D, total interest by A F, net interest by A J.

It may, with a certain amount of justice, be objected that payment for risk is a part of the expense of the employer of capital, and must be subtracted from the product of capital, thus cutting down the marginal productivity of the capital to correspond to the line M G instead of being added to the sacrifice of abstinence. It would then be not a part of interest at all. Either view would be consistent; but, so long as so large a part of that which is actually paid under the name of interest is payment for risk, it seems better to include it as a part of the sacrifice of the capitalist, since it makes no real difference to the nature of the problem.*

It can scarcely be denied that risk is a sacrifice to the capitalist. It is certainly one of the factors that influence the amount of saving. If men are doubtful of ever receiving a just return for their capital, they will have less inducement to forego the pleasure, however small, of present consumption. Men estimate present certain enjoyment considerably higher than future uncertain enjoyment. However, throughout the remainder of this paper, in order to simplify the illustrations, no distinction will be made between the sacrifice of abstinence and that of risk. Both will be treated under the general head of the total sacrifice of saving.

Any discussion as to whether marginal productivity or

*At present we are compelled to take account of risk. It is to be hoped that the progress of economic science will soon make it necessary to deal with the question of risk under the separate heading of insurance. Of the traditional four channels of distribution, wages would undoubtedly have first impressed itself upon the mind of an economist. Such simple tools as the primitive workman used would scarcely have been regarded as of sufficient importance to call for a distinct treatment. The theory of interest, therefore, would have developed later than that of wages. Rent and profits followed each in its turn. Insurance will probably soon take its place as a fifth channel of distribution.

marginal sacrifice were the most important to the production of interest must be a waste of time, since both are necessary, and neither could account for interest without the help of the other. With a given rate of decrease in the productivity of successive increments of capital, whatever raises or lowers the amount of sacrifice involved in saving will correspondingly raise or lower the rate of interest by decreasing or by increasing the supply of capital. For convenience let us suppose that the rate of decrease of marginal productivity remains fixed. Then suppose that a series of poor crops or other adverse circumstances, by diminishing the income of society, increases the sacrifice of abstinence, or that rumors of war or domestic violence increases risk. Either case would result in a decrease of the supply of capital, and raise the marginal productivity and the rate of interest.

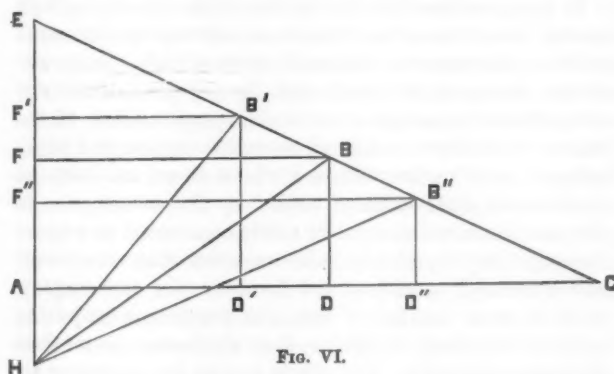


FIG. VI.

In Figure VI. as in Figure V., let AD represent the amount of capital, AF the rate of interest, the descending line EB the rate of decrease in marginal productivity, and the ascending line HB the rate of increase in marginal sacrifice. Now let us suppose the angle of descent of the line

E B to remain stationary: whatever increases the sacrifice of the capitalist classes will raise the line H B to the position of the dotted line H B'. The amount of capital will then be measured by A D', and the marginal utility and rate of interest by A F'. Or suppose the rate of sacrifice to decrease to correspond to the dotted line H B''. Then saving would go on to the point D'', and the rate of interest would be measured by the line A F''.

On the other hand, we may reverse the proposition by supposing the line H B to be stationary, while the line E B varies, and show that the same effect would follow the raising or lowering of E B. Thus we have the proposition: with a given rate of increase in the marginal sacrifice of saving and risking capital, whatever raises or lowers the productivity of capital correspondingly raises or lowers the rate of interest. The triangle H B F represents the rent or surplus gain of the capitalist.

It is impossible therefore to determine whether a high rate of interest is a favorable or an unfavorable sign until we know the reasons which make interest high. In a community where capital is safe and the payment of interest sure, where the people have a vivid appreciation of the future, where there are good natural resources, and population is not overcrowded, and where there has been no considerable destruction of capital by disasters, a rise in the rate of interest may pretty safely be counted as a favorable sign; for it probably indicates either that commercial and industrial conditions are favorable for the employment of more capital or that the people are acquiring a higher standard of life, so that abstinence costs them more than formerly. But, where any of the conditions are wanting, the conclusion does not follow.

From the standpoint of economic politics, it is probably best to lay more emphasis upon the cost or sacrifice element in the determination of the rate of interest. The factor of sacrifice is more easily corrected by social and

political measures. Education and enlightenment may increase the appreciation of the future, and encourage saving. Postal or other well-regulated savings-banks may do the same. Good legislation and a pure judiciary may decrease the risk of lending and employing capital; but it is not so easy to alter the productivity of capital.

If the foregoing argument is correct, it would seem that the productivity and the sacrifice theories of interest are to be harmonized in much the same manner as the cost and utility theories of value. This balancing of opposing forces which has been developed by Professors Jevons and Clark in relation to value seems capable of a much wider application than it has yet received. Its application to the theory of value is familiar to all. This paper is an attempt to apply it to the theory of interest, and it seems to the writer that the theory of wages might be made much clearer by an application of the same principle.

The question as to whether or not interest ought to be allowed by law resolves itself, as most other political questions, into the simple question of expediency. Without considering the question from the standpoint of abstract ethics, the argument from expedience is sufficient to justify interest. Were it possible to prohibit it, there would be at least two unfortunate results: First, much of the capital would be under inferior management. The reason A hires capital of B is because he can make better use of it than B can. He can make it produce more. If therefore B were forbidden to receive payment for the use of his capital, either society would lose through his inferior management or he would consume it. This brings us to the second unfortunate result. It would decrease the amount of saving. Capital to assist in carrying on industry would become scarcer, and society would suffer from a diminished supply of goods with a corresponding advance in cost.

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VALUE OF MONEY.*

MUCH has of late been said and written which seems to render desirable a restatement of the causes and conditions which determine the value of money,—the prices of goods. The remarks referred to are such as intimate or appear to imply that the extreme extension of credit, to embrace the banking system, the check system, and finally the clearing-house system, in some way vitiates the accepted proposition that the value of money is determined by the demand for and the supply of money, and makes general prices to depend on something else. The allusions to the small proportion of goods supposed to be paid for in actual money, to the cancellation of indebtedness within the bank, and to the vast transactions of the clearing house, as if these conditions rendered the supply of money a matter of indifference or at least of very slight consequence,—these allusions on the part of intelligent business men, and even of professional economists, are so frequent as to make it seem worth while to go over again the familiar ground of the value of money, to inquire whether anything needs to be added to or taken from the proposition which we once all practically agreed to accept.

There is nothing unreasonable in the idea that, in passing from a primitive community, industrially speaking, to one in which trade and production are highly organized, and in which credit and banking perform an important part, propositions regarding money which held good in the former condition should require to be importantly modified or wholly abandoned. In my work of 1878,† when

* This paper was read before the American Economic Association, at its session in Chicago, September 13, 1893.

† See *Money*, p. 22.

commenting on the remark of Professor Bonamy Price, that the vast operations of modern commerce only reproduce the simplest acts of primitive barter, I ventured to use the following image :—

The savage builds his canoe of materials every part of which would float of itself. The civilized man builds his broadside ship-of-war of material which of itself would drop like a plummet to the bottom. We may find, in our farther investigation, that there is something more in the philosophy of money than comes out in the primitive trade between the tailor, the butcher, and the baker.

But, in fact, does anything in the transition from a primitive to a highly organized trade impair the validity of the proposition that the value of money (whatever that money may, in the place and at the time, consist of) depends, like the value of anything else, on the relations of demand and supply; that prices are determined in the amount of goods offered for money, and the amount of money offered for goods? This is the question I presume to raise to-day.

It is enough to make the most faithful soul flinch and shrink, to be asked to go back to the contemplation of a primitive community and to consider the origin of money; yet in this case it seems to be necessary, and I will try not to be tedious. Let us suppose that in such a community, the members of which pursue various occupations and produce different kinds of commodities, the difficulties of direct exchange are so great as to put a heavy penalty upon barter, or, to express it otherwise, to place a high premium upon the use of money; and that, by consequence, all commodities are exchanged through the intervention of money. It was with reference to such a supposed situation that the proposition which has been more than once repeated in this paper was framed. In such a case, we should all agree that the value of money depended on the demand for and supply of money. In speaking of the demand for money, we should of course understand that

the effective occasions for its use in exchange were meant; and, consequently, we should have reference not merely to the amount of goods produced, but also to the frequency with which those goods were to be exchanged in their passage from producer to consumer. Again, in speaking of the supply of money, it would be understood, almost without the necessity of explanation, that reference was had, not alone to the number of money-pieces, but also, and conjointly with this, to the rapidity of their circulation. "The nimble sixpence does the work of the slow shilling."

Such is the situation in which no doubt arises regarding the causes and conditions which determine the value of money. Since the members of the community must have money in order to exchange their goods, and since, by the supposition, they must exchange their goods in order to make it worth while to produce them, they, each and all, must needs buy money. In order to buy it, they must pay its price, give what it is worth. What it shall be worth will depend, demand being fixed, upon the supply. The cost of production of money will influence its value only as it affects that supply. Conceivably, the money thus brought into use might be an article which held no appreciable cost of production, as, for example, an article found on the surface, but naturally limited in quantity; or it might be an article owing its use to authority or to convention.

Now let us take the first step from the condition assumed, in recognizing the fact that, in an actual community, all of the goods produced will not be subject to exchange, and therefore will not contribute to the demand for money. The fisherman will consume no small part of his catch in the support of his family; perhaps one-half of the crops of the farmer will be eaten within his own house and barn; the shoemaker, the tailor, and the hatter will each wear and wear out some part, at least, of his own

product. Does this modification of our assumed condition require any qualification of our proposition? Probably we shall all agree that it does not, that the product thus consumed at home is entirely out of all relation to the value of money, and that it is only the surplus going into exchange which has anything to do with determining that value.

Let us now take the second step from the condition originally assumed, and recognize the fact that no inconsiderable part of the surplus product is directly exchanged without the intervention of money. In the face of the highly humorous descriptions that have been given of the difficulties attending such transactions, we know that in every community, even the most advanced industrially, barter does take place, and that on no small scale. Let us suppose the amount of direct exchange within the community in contemplation to be large. Have the goods thus exchanged any relation to the value of money? In one way they have; but it is in the way of effect, and not of cause. The prices of the several kinds of goods produced in the community — that is, their value in terms of money — having come to be known through the exchanges which have taken place with the use of money, the barterers will be influenced thereby in fixing the ratios of direct exchange. But this is an incidental effect of the value of money, not in any sense or any degree a cause. Were the bartered goods to be multiplied fourfold (but not at the expense of the goods exchanged for money), this would have no effect upon prices, since it would alter neither the demand for nor the supply of money.

It is true that the line drawn in any community between bartered goods and those sold for money is not a permanent one. Possibly there has been some failure on the part of many meritorious economists to recognize the degree in which barter may be resorted to or may be abandoned, according as the money in use becomes more

or less convenient and attractive in form, more or less trustworthy as to substance and weight. In my work of 1878 I offered what seems to me a very important qualification of Ricardo's proposition regarding the value of corrupted coin. That qualification had reference to the large possibilities of extending barter whenever popular confidence in the coin becomes impaired. The commercial history of the United States during the Revolutionary War, of France during the time of the assignats, and I doubt not of other countries under a *régime* of inconvertible paper money largely depreciated, illustrates the importance of noting this condition. By the corruption of the coin, or merely by its becoming inconvenient and unattractive, much more by the fluctuations of an inflated paper circulation, the penalty upon direct exchange may be so diminished as largely to widen the field of barter. And in the same way everything that adds to the convenience, attractiveness, and trustworthiness of the money in use, may cause that field to be encroached upon. All this, however, has nothing to do with the validity of our proposition. It is still the goods which are exchanged for money, be these more or fewer, and not the goods which are bartered, be those fewer or more, which contribute to that demand for money which determines price.

Our third step is involved in more of difficulty and of embarrassment. We are now to suppose that, of the goods which are, in the usual acceptance of the term, sold for money, a portion, let us say a considerable portion, are not paid for at the time. Credit is given either for a definite or an indefinite term. What is the effect of this upon the value of money? Do these goods contribute to the demand for money which determines price? The sales are made in terms of money; money is promised; money is, we will for the present say, sooner or later, to be paid.

Let us here introduce a distinction. Let it first be assumed that the credit is to remain individual, if I may

use that expression; that the obligation is not to be transferred, but that the debtor and the creditor are to remain the same persons until the close of the transaction. In this case, I should say, with deference, that goods so sold contribute to the demand for money just as truly as goods sold for cash; but I should add, not just as much. The factor by which the amount of such goods is multiplied, to give their effect in determining the demand for money, is lower. In the case, at least, of goods sold on definite terms of credit, there is a considerable, often a very large, economy in the use of money, as compared with the conditions of production and trade where "trust" is not given. It is not necessary to keep such large amounts of money in the shops or to carry them around on the person.

But now let it be supposed that credits are no longer individual, in the sense in which we have used that term, but that transference by indorsement has become general, and that banks have arisen which receive deposits of commercial paper representing a very large part of the wholesale transactions of the community. What shall be the effect of this on the value of money? According to my way of thinking, so far as this transference of obligations, especially in the case of the bank, which thereby becomes creditor to many debtors and debtor to many creditors, results in the cancellation of indebtedness, as to an enormous extent it does, these transactions are, so far as concerns the use and by consequence the value of money, the same essentially as if they had been acts of barter. Exchanges of this category do not involve the employment of money; and they are therefore to be counted out when we are considering the causes and conditions which determine the value of money. They constitute no part of the demand for money. Two transactions upon credit which in time and amount balance each other, and which, as a matter of fact, cancel each other when brought together in the bank, are, for our present purpose, equivalent to one

transaction of the same amount in direct exchange or barter. The fact that each obligation has been expressed in terms of money, the fact that, in the buying and the selling which preceded the giving of the note of hand or bill of exchange, reference was had by both parties to prices determined by actual exchanges of goods for money, — these facts do not, it seems to me, at all impair the validity of the view that, so far as the use and the value of money are concerned, such transactions are, in essence, cases of barter.

But it may be said such transactions do, in fact, involve the use of money. The bankers' liabilities, which are made up of deposits of commercial paper coming due, and which constitute the fund upon which those who are debtors to others, but are creditors to the bank, may draw checks for the payment of their own obligations, — these banker's liabilities, or bank deposits, are, many persons assert, themselves money. I am well aware that this view has been held by those of whom it is needful to speak with very great respect. Such was the opinion of Lord Overstone; and Professor Sidgwick has more recently presented the same view. But I must say that it seems more compatible with the facts of commercial life, as well as far more conducive to a consistent and intelligent philosophy of money, to treat this matter of the cancellation of indebtedness in the way which has been suggested above. Bank-notes are money. They are distinct and tangible things, which pass out from the bank and have their own separate life and course; which become the property of him in whose hands they at the time are, as truly as do coins of gold or silver. Like such coins, they pass from hand to hand throughout the community, without reference to the character or the credit of the person offering them. Like such coins, they are accepted in final discharge of debts and full payment for commodities, without necessary recourse to the issuing bank, except as

they may individually become too much worn for further circulation, after performing, it may be a hundred, it may be a thousand, exchanges. Bank deposits, or bankers' liabilities, are not money. Inscribed on the books of the bank itself, divided into no definite parts, constituting no tangible thing, having no outside course to run, with no separate, identifiable existence, they are not money: they are simply an instrumentality for saving the use of money. As such, it would be impossible to overrate their importance; but that is no reason for attributing to them a character which they do not bear. Their real nature and function more clearly appears, it seems to me, when they are spoken of as an instrument for the cancellation of indebtedness than when they are characterized as money. To my mind, it is of importance to recognize, as among the signs of all true money, its circulation; its passing from hand to hand throughout the community; its leaving no trace or record behind it as it goes, indebtedness being discharged, or goods paid for, every time it changes hands.

Let us now pass to the final and last stage of our journey. It is only with reference to the point now approached that this paper has any significance, since thus far nothing new has been sought to be presented. Let us now suppose that credit has grown to enormous dimensions, and that, by consequence, the banking system, the check system, and the clearing-house system have been carried to what seem to be the limits of their possibilities. Vast volumes of indebtedness are daily cancelled in each bank, while but a small amount of coin and notes together is made use of in these transactions. At the clearing house the undischarged balances of a score or two of banks are every afternoon brought together and settled, with a use of coin and notes even smaller still. Now is there anything in such a situation which in any degree impairs the validity of the proposition that it is, after all, the demand for and the supply of the actual coin and notes

which determines prices? It seems to be an opinion that such a use of credit does constitute some other rule for determining the value of money, which prompts the frequent allusions to the fact that in such or such a bank the cash payments constitute but three per cent. of the total transactions or that in a given clearing house only a half of one per cent. of the bank balances are settled in money. Whenever a question arises regarding the sufficiency of the present or the probable future supply of metallic money, facts like these are thrust at us, not merely as showing the economy effected in the use of money by the organization of credit, but as if they showed that the supply of money had ceased to be of any consequence at all, and that something other than the money supply had come in to determine prices.

Now, it must be said that it is altogether consistent with economic principles that the relative importance of a subject of exchange should become so far diminished that it is released from the ordinary operation of the force of self-interest. Money itself affords an example in point, in the case of *billon*, the petty coin of small change, which seems to be governed by something analogous to the law of capillary attraction. Ordinarily, we say, water tends to seek its level; and we find a world of illustrations of that tendency, not merely in rivers, lakes, and oceans, but in the crust of the earth and in the very atmosphere. Yet, if a tube be only fine enough, water will stand in it, at any height, without any regard to gravitation. And this exception is not merely of curious interest: the whole vegetable creation subsists by virtue of it. So in the case of *billon*, with a proper regulation of amount, the market price and the mint price of the metal need have no defined relation to each other. There seems to be a sort of impression in the minds of the speakers and writers to whom in this paper I refer, to the effect that the volume of credit transactions in highly organized

communities become so enormous as to carry the money of the community with them by a species of capillary attraction. It is no longer, in this view, the actual money of a country which underlies and sustains the structure of credits: the credit structure becomes so vast and gigantic that the money of the country depends upon it and depends from it as a trivial, if not merely ornamental, appendage. Is there anything in such opinions which, however loosely held and vaguely expressed, have certainly exerted no little influence upon recent monetary discussion? Does the exaggeration of credit transactions, however monstrous they may become, in any degree release prices from the rule which has been indicated as governing them? Have such transactions any influence upon the value of money other than that which has been pointed out; namely, by accomplishing a certain cancellation of indebtedness, producing the virtual result of an extension of the field of barter and a corresponding retrenchment of the field for the use of money? Within the latter field, thus diminished, does anything less or anything other than the traditional principle govern the value of money, the price of goods?

In addressing myself to this question, I desire to say, first, that there is much of the vast volume of credit transactions, as shown by the statistics of the bank and the clearing house, which may, for all the purposes of the present discussion, be termed fictitious,—fictitious in the sense that a great part, perhaps the larger part, of these transactions are outside the necessary work of exchange in the community, fictitious in the sense that these transactions are very largely the direct product of the existence of the agencies, the bank and the clearing house, through which the resulting indebtedness is cancelled. Let me illustrate my meaning. It has been stated that the entire cotton crop of the United States is sold eight times over in the New York market alone. I know not

whether this statement is exactly true; but it is beyond question that that crop is sold over and over again, adding enormously to the banking and clearing house transactions of the city. By far the greater share of these purchases and sales constitute no necessary part of the process of getting the cotton from the planter to the manufacturer. Speculators take advantage of this credit organization, without which their operations would necessarily be restricted within very narrow limits, to carry on an enormous amount of gambling or betting on the future price of cotton. It is not essential for our present purpose to inquire whether this multiplication of purchases and sales under speculative impulse is or is not detrimental to production and to what we may call legitimate trade; that is, those exchanges, be they few or be they many, which are actually necessary to carry the product most easily and surely from the farmer to the manufacturer. I touch the subject here only to show how largely this speculative trading, itself mainly the result of the high organization of credit, contributes to inflate the statistics of the bank and the clearing house, and thus to produce the impression which has been adverted to, respecting the relative insignificance of the use of money in our day. What is true, in this respect, of cotton is also true of corn, wheat, pork, petroleum, mining and railroad stocks, and a hundred other subjects of exchange. In this view, am I not justified in saying that a very large part of the credit transactions, the amount of which is so freely adduced to show the comparative insignificance of cash transactions, are, with respect to that object, purely fictitious? Those who roll as sweet morsels under their tongues such gigantic figures as thirty or forty thousand millions a year, in speaking of the work of a single clearing house, are really deceived if they think that these sums represent either transactions that would have taken place, did not the clearing-house mill stand ready to take

the grist, or transactions the non-existence of which would impair production and legitimate trade.

Secondly, while the speakers and writers in question dwell with so much emphasis on the fact that, of the transactions of Sir John Lubbock's bank, only three per cent. were settled with cash, and that, in a certain clearing house, only a half of one per cent. of the business was adjusted in the same way, they inadvertently fail to call the attention of their hearers or readers to the fact that, in spite of barter and in spite of credit, a very large part, in most countries by far the largest part, in many countries almost the whole, of retail trade is still conducted with the use of money; and this is, after all, the vital thing. It would not in the least matter, for the purpose of deciding the question, what determines the value of money, if the cancellation of indebtedness in the wholesale trade were complete, if Sir John Lubbock found additional commercial paper to take the place of that unhappy last three per cent., and if every claim made by every bank, every afternoon, at the clearing house were offset by an equal and incontestable demand. The statistics of banking and clearing-house transactions would be irrelevant and impertinent to the issue, even were they not inflated, as has been indicated. In the field of wages and of retail trade, money gets that room to operate which enables it to determine prices, just as truly as if banks and clearing houses did not exist. In our own country the every-day agency of money is somewhat obscured by the enormous extension of the check system, by which small bills are often paid. But even in England, whose credit and banking organization is in all other respects far more perfect than our own, such a use of checks is almost unknown. Beyond England and the United States, no other country in the world to any extent employs this method of buying goods or paying bills for ordinary personal or domestic expenditures. But, even if the field of cash payments were far more en-

croached upon than it is, this would not impair the validity of our proposition. As I said in the earlier part of this paper, the use of credit simply means the diminution of the demand for money. It still remains true that the demand for money, whatever that may be, does, taken in connection with supply, determine prices. No civilized country has ever reached the condition, and we are not called upon to contemplate a time within which any civilized country will reach a condition, in which money must not be used to a vast extent. So long as people must have it, to pay wages and to buy goods, they must buy it, they must pay its price for it, they must give what it is worth. What it shall be worth will depend upon the demand for and the supply of it, as in case of any other thing that is bought and sold. The demand for money is found in the money work to be done, the amount of exchanging which needs to be effected by the use of money. The supply of money consists in the number of money-pieces available for the work of exchange, taken in connection with the facility with which they can be so used, the freedom or rapidity of circulation. Outside this field, it does not for this purpose matter in the least what the volume of credit may be, how high may be piled the transactions of banks and clearing houses. Were we considering the security of the latter, it would be important to compare their volume with the amount of money circulating within the field of cash payments; but this is not our business to-day.

When the present paper was placed upon the programme of the Association, I little thought that in defending my thesis I should enjoy the advantage of such a tremendous, such an overwhelming demonstration of the importance of the actual money of a country, in the face of the most elaborate organization of credit, as the United States has afforded during the past two months. Sir John Lubbock's bank and the half per cent. cash payments in the

clearing house cut a very small and sorry figure, indeed, in comparison with the spectacle which has been afforded of a great nation on the verge of general insolvency, thousands of factories and workshops closed, hundreds of thousands of workmen thrown out of employment, all because a certain amount of cash, of actual money, had been locked up in strong boxes and bank vaults. When one considers what this great industrial nation has passed through within the last sixty days because a portion only of its money had been withdrawn, he is fairly in a position to appreciate the senselessness of all this talk about the unimportance of the money supply which I took for my theme on this occasion. Until we have forgotten how we saw the banks of the commercial and financial metropolis refuse to pay their balances to other cities in cash on demand; how we saw great and rich firms paying their workmen in checks of \$2, \$3, and \$5, and these checks not payable at the bank, but stamped "payable only at the clearing house"; until we have forgotten how we saw great factories carrying on their business timidly from day to day, not with money and not with proper commercial credit, but upon the frail foundation of sympathy and forbearance from their creditors and even from their operatives, while thousands of other manufacturers refused to carry on business at all under such conditions, and closed their works,—until we forget these universal experiences of the past few weeks, we shall, I think, be disposed to give Sir John Lubbock's bank a rest. No more striking demonstration could possibly have been given of the fact that, after all credit can do, money, actual money, money that passes from hand to hand, is still the vital blood of commerce, than has been afforded by the crisis through which the United States has just passed. For weeks the nation walked along the very verge of a precipice, under a strain which could not possibly have continued for as many weeks longer without hurling industry and trade to

the bottom of the abyss. All this time the trouble was not want of capital, for the nation had never been so rich; not the lack of credit in commercial relations, for the history of the world may be searched in vain to find an equally remarkable example of the readiness of merchants and bankers to trust each other and to support each other, even at the risk of their own fortunes. The trouble was all in the sudden withdrawal of a portion of the nation's money supply, due to distrust of financial legislation. This was all, and this was enough to bring the United States nearer to general ruin than it has been before since the war made us a nation indeed.

F. A. WALKER.

THE PRUSSIAN BUSINESS TAX.

THE taxation of business profits is a source of public revenue to which most states have in one form or another resorted, although not always directly or by means of a distinct tax. Of course, business may be taxed under some more general form of taxation, such as a general income or property tax. But many European countries have adopted a business tax, which is distinct in form and administration from the other taxes which with it make up the tax system of the country.

In Prussia the business tax, or *Gewerbesteuer*, has existed in addition to an income and class tax, a land tax, and a tax on buildings. The income tax is general, imposed alike on all forms of income. The other taxes are, in effect, an additional impost on income derived wholly or in part from land and capital. It is assumed that this form of income may with justice be required to contribute more to the public expenditures than the earnings of labor alone, such as wages, salaries, and professional fees.

In 1890-91, before the recent reform of the tax system, the yield of these several taxes was as follows:—

	Marks.	Per cent. of Total Tax.
Land Tax (<i>Grundsteuer</i>)	40,032,000	24.6
House Tax (<i>Gebäudesteuer</i>)	32,375,000	19.9
Business Tax (<i>Gewerbesteuer</i>)	21,119,000	13.0
Class Tax (<i>Klassensteuer</i>)	24,681,000	15.2
Income Tax (<i>Einkommensteuer</i>)	44,364,000	27.3
Total	162,571,000	100%

The effect of recent legislation has been to make the income tax the principal state tax, and set apart the other taxes in the above list—with the exception of the class tax, which has been absorbed in the income tax—for purposes of local taxation. At the same time a state property tax has been introduced, to which the name *Ergänzungssteuer* (supplementary

tax) is given, because it is intended to supplement the income tax, and carry out the idea of imposing an additional burden on "funded" incomes; that is, incomes derived from land and capital.

These latest changes embodied in the legislation of this year form the second step in the scheme of reform, which will doubtless always be associated with the name of the present minister of Prussian finance, Dr. Miquel. The scheme certainly does credit to his statesmanship and political sagacity. A fuller description of these latest tax reforms may, the writer hopes, be given in some future paper. The income tax in its most recent developments has already been discussed in this *Journal* for January, 1892. On the present occasion it is proposed to give some account of the business tax.

While it is manifest that the business tax has not occupied a prominent place in the Prussian budget, yielding but 13 per cent. of the total revenue derived from direct taxes, yet in its form and administration there are certain unique and interesting features which make it worthy of especial study. Like the income tax, it underwent important changes in the tax reforms of 1891; and although in future it is, as we have said, to be a local tax, in the sense at least that the revenue derived from it goes not to the state, but to *Gemeinde* or some other local organization, yet it is still to be administered by the state; and the provisions of the law of 1891 which regulated the state business tax are still to be enforced, with only such changes as the new purpose to which the tax is to be devoted renders necessary. These changes are few; for the law of 1891 was passed with the expectation that the *Gewerbesteuer* would soon become a local tax, and seems to have been framed with that probable result in view.

The great difficulty in the way of the assessment of a business tax is the ascertainment of the value of the business or the amount of the annual earnings which form the proper basis of taxation. Of course, the owner of the business, even if he cannot state with absolute certainty the amount of his

net profits, is in a position to give as complete and satisfactory information on this point as the case admits; and he might be required to make a declaration of his profits, similar to the declaration which is often required in the assessment of a general income tax. We believe, however, that this method has not been resorted to in any case where the taxation of business profits has been carried out by means of a distinct tax, and not included under some more general form of taxation. The usual objections made to assessment on the basis of declarations—namely, that it is inquisitorial, and equivalent to a tax on conscience—apply with additional force when it is a business tax which is under consideration; for in business affairs a certain degree of secrecy is often essential to success.

These considerations, perhaps, have made legislators more reluctant to require declarations here than elsewhere. But, if that method is not to be employed, the only alternative seems to be either to rely on official estimates, made on the basis of the best information accessible to the tax assessors, or to regulate the tax by means of certain outward signs or criteria of the size of the business, after some method which is explicitly described in the tax law, and leaves little or no scope for the independent judgment of the assessors. The best illustration of this method is found in the French *patent* tax, where, in order to carry out the plan and adapt it to the great diversity in the condition and nature of the industries taxed, an extremely elaborate enumeration of occupations and scheme of indicia has been adopted. The signs or criteria taken into consideration are as follows:—

1. The nature of the industry or occupation, the different industries being divided into four main classes, A, B, C, and D, with a further subdivision within these classes.

2. The rental value of the buildings used in the business and, usually, of the owner's dwelling, if it is distinct from his place of business.

3. The population of the place in which the business is carried on, this index being regarded, however, only in classes A and B.

4. For certain kinds of industry the number of workmen

employed, or the amount of machinery made use of, or some similar index of the extent of the business.*

The *patent* tax was introduced in France almost a century ago, and has undergone a good deal of revision since then, until at the present time it represents, probably, as near an approach to perfection as the method of taxing by outward indications is capable of. But, at best, it is an unsatisfactory way of getting at the tax-paying capacity of a business, although it possesses the advantage of avoiding any searching inquiry into the financial condition of the tax-payer, and of preventing arbitrary action on the part of the tax officials. The latter have only to follow implicitly the rules laid down in the law. The same system has been adopted with more or less modification in many other European countries.

The Prussian business tax, although up to the time of the latest reform it resembled the French in some features, has always placed more reliance on the discretionary judgment of the assessors. Thus in Prussia the law has never attempted to regulate definitely and finally the tax for each individual business. A distinguishing feature of the system has been the assessment by means of a medium or average rate for all business concerns of a given kind located within a given district. This average rate, multiplied by the number of persons or concerns assessed, will of course give the total tax to be collected from that trade or business in that district. The equitable distribution of this total among the individual tax-payers is intrusted to local assessors, acting under certain restrictions which will be noted later.

This method of assessing the tax was introduced in the law of 1820; and that law, which was one of several important tax measures enacted at the same date, was not repealed until 1891. The several amendatory laws which had been passed in the mean time (July 19, 1861, March 20, 1872, and June 5,

*It would take too much space to describe the way in which the tax is determined by reference to these criteria. See Leroy-Beaulieu, *Sciences des Finances*, 1. 392-414; Wagner, *Finanzwissenschaft*, 468. The law, as revised in 1890, may be found in *Bulletin des Lois*. See also Say, *Dictionnaire des Finances*, art. *Patentes*.

1874) did not affect the general character of the tax; and the method of assessing by means of average rates is still perpetuated in the law of 1891. But in most other respects the new law differs from the old, and especially as regards the classification of the industries taxed.

The law of 1820 based this classification in part on the nature of the industry. There were eleven classes, in most of which the method of assessing an average rate was introduced; and this rate was graded with reference to the size of the city or place in which the business or industry was located. With this end in view, all cities and smaller places were divided into four groups: the first group, for which the average tax was the highest, comprised nine principal cities given by name; most other cities with a population of 6,000 or more were included in the list which made up the second group; and, of the remaining smaller places, those with a population of 1,500 or more belonged in the third group, and all others in the fourth.

To illustrate the method, take the tax on the keeping of inns and public houses, which was one of the eleven classes referred to above. Here the average annual rate for the first group, the large cities, was 12 thalers, for the second 8, for the third 6, and for the fourth 4. One hundred innkeepers in a city of the first group, for instance, would have to pay, on the average, a tax of 12 thalers each, or a total tax of 1,200 thalers. The law further prescribed a minimum tax, which, in most cases, was one-half the average, so that, in the above case, for instance, every innkeeper in a city of the first group must pay at least 6 thalers. There was no fixed maximum limit, nor was any needed, for the adoption of a minimum rate in connection with an average rate tends at the same time to prevent the assessment of disproportionately high rates; for, in order to make up the average tax, the assessment of higher rates in some cases must be offset by lower ones in others, and a fixed limit in one direction would therefore act as a restriction on taxation in the other. A further guarantee for the satisfactory distribution of the total tax among the individual taxpayers was given in that provision of the law which required

those engaged in the taxable industry to elect from their own numbers the local assessors.

Such were the main features of the Prussian business tax previous to 1891. The law of that year introduced important changes.* The old classification of industries has been abandoned, and the population of the place in which the business is located is now no longer taken into account in regulating the tax.

The basis of the new classification is for all kinds of business alike, either the annual earnings or the capital. There are four classes (cf. *Gesetz von Juni 24, 1891, § 6*): the first includes business or industrial undertakings which either yield annual earnings amounting to not less than 50,000 marks or employ a capital (fixed and circulating) of not less than 1,000,000 marks; in the second class may be rated those businesses with annual earnings from 20,000 to 50,000 marks, or with a capital from 150,000 to 1,000,000 marks; in the third, those with earnings from 4,000 to 20,000 marks, or with capital from 30,000 to 150,000 marks; and in the fourth, those with earnings from 1,500 to 4,000 marks, or with capital from 3,000 to 30,000 marks. Any business in which neither the earnings amount to 1,500 marks nor the capital to 3,000 marks is exempt from the tax (*Gesetz, § 7*). It was estimated that this limit would exempt about 300,000 small business undertakings, or more than one-third of the total number of businesses (865,940) assessed under the old law (cf. *Einleitung des Gesetzes*).

This double basis of classification may at first seem somewhat confusing, or even inconsistent with the plain rule of logic that a division must be founded on one principle or basis. But a further study of the law shows how the two bases are to be employed so as to avoid difficulty. Each business is classified on the basis of either its earnings or its capital. When it belongs in one class on the first basis and in another on the

*The law bears the date of June 24. The German text is given in the *Finanzarchiv* for 1891 (vol. II.), and has also been published in many other forms, with additional material in the way of comments and explanations. One of the cheaper editions is *Das neue Gewerbesteuer-Gesetz. Ergänzt und erläutert durch die amtlichen Materialien der Gesetzgebung*. Von R. Hüfinghaus. 1891. Berlin: Ferd. Dümmler's Verlagsbuchhandlung. Price 60 pfennigs.

second, the tax officials have, with certain exceptions which we shall mention presently, practically the option of rating it in either class. Of course, having regard to fiscal considerations only, it would be natural to rate the business in the higher class, where it would yield considerably more to the public revenues than in the lower. Accordingly, the intention is that in general earnings shall be employed as the principal basis of classification; but it is deemed practically advantageous to use capital as a secondary or alternative basis, because there are cases in which it is especially difficult to estimate the earnings,—as when a business is newly established or where it is carried on principally in foreign countries, although having its location or some one factory in Prussia. Furthermore, it is urged that this use of two bases meets with favor in business circles, where occasions for dissatisfaction would often arise if a business were transferred to a lower class or perhaps exempted from the tax altogether, simply because, owing to some special combination of circumstances (*Konjunktur*) or to some single error of management, its earnings had temporarily fallen below the limit of the class in which it had hitherto been rated (*Einleitung des Gesetzes*).

But, whichever basis of classification may be employed, the tax for each class, as we shall see, is graded with reference to the estimated earnings. It is apparently meant to be a tax on profits rather than capital. Therefore, if a business is correctly classified on the earnings basis, the fact that it may belong in a lower class on the basis of capital does not show that the tax on it is disproportionately high. That fact simply means that the business derives, relatively, large earnings from small capital, or, in other words, is unusually profitable, and may be taxed accordingly.* The law allows no appeal from the classification in such cases as this.

The case is otherwise when the business is correctly classified on the basis of capital, but on the basis of earnings be-

* It may be noted in passing that the regulating of the tax with reference chiefly to the earnings is somewhat inconsistent with the idea of making it rest on "funded" incomes. Large profits in proportion to capital usually imply superior business management or some other form of labor on the part of the owner.

longs in a lower class. Here the tax may prove to be higher in proportion to the earnings than was intended; and the law has taken such cases into consideration by providing that any business, even when correctly classified on the basis of capital, must be transferred to the next lower class on proof that for two years in succession the earnings have not amounted to 30,000 marks in Class I., 15,000 marks in Class II., or 3,000 in Class III. (*Gesetz*, § 8). These amounts, then, represent the minimum limit of permanent earnings for these three classes respectively. Whatever the capital may be, the business cannot be retained in the class in question unless the earnings come up to this limit. The limit, it will be observed, is considerably below that which is adopted for the classification on the earnings basis. On that basis no business can be classified in Class I., for instance, unless its earnings amount to 50,000 marks. If, however, its capital amounts to 1,000,000 marks, it may be classified on the basis of capital, and retained in Class I. so long as its earnings amount to 30,000 marks. It does not follow, however, that, because under these conditions the business is retained in Class I., it must pay as high a tax as it would if its earnings were sufficient to rate it in that class, or that it must pay a higher tax than it would if, on the basis of earnings, it were transferred to Class II. This will be apparent when we come to consider the scale of rates.

There are no provisions corresponding to the above in case of Class IV., the lowest class. Therefore, no business with a capital of 3,000 marks is exempt from the tax, however small its earnings may be; but under the scale of rates in that class the tax may readily be adjusted to cases in which the earnings are unusually low in proportion to the capital.

In determining what constitutes earnings or capital, the tax officials have to rely mainly on their own personal knowledge and judgment. But a few general principles are laid down in the law. The costs of the business are to be deducted from the gross receipts, and a proper allowance made for depreciation or loss in value (*Werthverminderung*),* and for the loss

*This, it seems, includes loss occasioned by wear and tear (*Abnutzung*) of the buildings and equipments and any depreciation in the value of wares or of the outstanding claims of the business, etc.

incurred by discarding machinery or other equipments of the business. But the interest on capital, whether borrowed or not, and on debts cannot be deducted. Neither can expenditures for the improvement or extension of the business, nor for the living expenses of the owner and those dependent on him. Fixed and circulating capital is briefly defined as comprising all the value permanently devoted to the prosecution of the business (*Gesetz*, §§ 22, 23).

The method of assessing the tax by means of a medium or average rate has, as we have said, been retained in the new law: it does not, however, apply to Class I. There its adoption was considered impracticable, owing to the wide differences in the earnings and capital of businesses rated in this class. Therefore, each business is assessed separately and independently. The tax is graded so as to collect approximately 1 per cent. of the earnings. Thus, when the earnings are from 50,000 marks to 54,800 marks, the tax is 524 marks; and it increases 48 marks for every increase of 4,800 marks in the earnings. In this class, then, the tax is simply a graded tax on earnings assessed directly on each business. The assessment districts are the provinces and the city of Berlin; and, of the assessors for each district, two-thirds are chosen by the committee of the province (*Provinzialausschuss*), and one-third are nominated by the Minister of Finance (*Gesetz*, §§ 9, 10).

For the other three classes average rates are prescribed: for Class II., 300 marks; for Class III., 80 marks; and for Class IV., 16 marks. This rate is the average tax to be collected from the tax-payers in any given assessment district. The assessment district for Class II. is the *Regierungsbezirk*; for Classes III. and IV., the *Kreis*. The tax-payers rated in the same class and district constitute a tax association (*Steuer-gesellschaft*), on which the total tax for that class in that district is assessed (*Gesetz*, § 13). This total is, of course, the product obtained by multiplying the number of business undertakings represented in the association by the average rate for the class in which it belongs. If, for instance, in a given district there are 100 businesses rated in Class III., the total tax in that association will

be ($80 \times 100 =$) 8,000 marks. The distribution of this total among the individual tax-payers is intrusted to a tax committee, the *Steuerausschuss*, the members of which are elected by the association from its own numbers. But the chairman is a commissioner of the government appointed to represent the interests of the state (§§ 15, 25). In the election of the committee the suffrage is limited to one vote for each business taxed. The size of the business is, therefore, not taken into consideration; and, where there are several proprietors, only one of them can vote. In this way it is hoped to secure assessors who possess the confidence of the tax-payers, have a practical acquaintance with the local business conditions, and will distribute the tax equitably and satisfactorily. This feature of the law is not new. It was adopted when the business tax was introduced in 1820, and in its workings is said to have given general satisfaction.

In assessing any individual business, the committee is limited to a choice among the optional rates prescribed in the law for each class. In Class III., for instance, there are 18 such rates, ranging from a minimum of 32 marks to a maximum of 192 marks (*Gesetz*, § 14). Moreover, the rate selected in any case may not exceed 1 per cent. of the earnings of the business taxed. This rule, however, does not apply to a business rated on the basis of capital when on the basis of earnings it belongs in a lower class (*Gesetz*, § 15, 2). Acting under these limitations, the committee is to distribute the tax according to their knowledge or estimation of the amount of the earnings.

In this intention to collect about 1 per cent. of the earnings, and in most cases not more, is found the explanation of the scale of rates which is given below. The maximum rate in each class is nearly 1 per cent. of the maximum earnings in the earnings scale of classification; and the minimum rate, although considerably less than 1 per cent. of the minimum earnings in that scale, is but little more than 1 per cent. of the minimum earnings which a business might yield, and still be retained in the class in question on the basis of its capital.*

*In Class IV. there is, as we have remarked, no such minimum limit for the earnings. But the low minimum rate, 4 marks, makes it possible to keep the tax below 1 per cent. until the earnings fall below 400 marks.

The consequence is that the rates for the different classes overlap; that is, the minimum rate for each class is less than the maximum rate for the next lower class. This allows a considerate treatment of businesses which are rated in a given class on the basis of capital, but which, as regards earnings, belong in the next lower class. The arrangement is an ingenious one, and has some results which are worth noting.

		Rates.
EARNINGS from 1,500 to 4,000 marks, or CAPITAL from 3,000 to 30,000 marks,	} -IV. . . .	4
		8
		12
		16=average tax for IV.
		20
		24
		28
		32
		36
		40
EARNINGS from 4,000 to 20,000 marks, or CAPITAL from 30,000 to 150,000 marks, and earnings not less than 3,000 marks,	} -III. . . .	48
		56
		64
		72
		80=average tax for III.
		88
		96
		108
		120
		132
EARNINGS from 20,000 to 50,000 marks, or CAPITAL from 150,000 to 1,000,000 marks, and earnings not less than 15,000 marks,	} -II. . . .	144
		156
		168
		180
		192
		228
		264
		300=average tax for II.
		336
		372
EARNINGS not less than 50,000 marks, or CAPITAL not less than 1,000,000 marks, and earnings not less than 30,000 marks,	} -I. . . .	408
		444
		480
		534 on 50,000-54,800 earnings.
		572 on 54,800-59,600 "
		630 on 59,600-64,400 "
		etc. etc.

In the first place, it is obvious that the transfer of any given business from one class to the next lower need not necessarily reduce the tax it has to pay; and conversely, of course, its transfer to a higher class need not raise the tax. For instance, a business with a capital of 150,000 marks, and earnings amounting to 18,000 marks, might either be rated in Class II. on the basis of capital or in Class III. on the basis of earnings, without making any difference in the tax the owner is called upon to pay. For in either class he may be assessed 156, 168, 180, or 192 marks. In that case, it might well be a matter of indifference to him in which class he was rated; but in the yield of the tax to the public treasury it would make a very important difference. For, if the business is retained in Class II., it yields the average rate for that class,—namely, 300 marks,—which has to be raised by the association in which the business is taxed. If, however, it is transferred to Class III., it will only yield 80 marks, the average rate for that class. It is obviously for the interests of the treasury to have this business retained in Class II. Its transfer to Class III. means a loss of 220 marks; and yet the owner of the business may, as we have seen, have no special inducement to protest against his retention in Class II. That is not the case, however, with the association to which he belongs; for it pays over to the public treasury 300 marks on his account, while it receives from him only 180 marks. It would therefore gain 120 marks if this tax-payer were transferred to Class III.; and in that class he will be welcomed, for he adds but 80 marks to the total tax of the association, to which he contributes 180 marks.

The arrangement has this advantage, as it seems to me: It allows the tax-payer who is on the border line between two classes to pursue his own business affairs without giving himself much concern as to which class he is rated in. He can leave that question to be decided by the representatives of the associations interested and the government officials. In making the classification, the friction must come principally at this point. The fiscal interests of the State demand that the business should be classified in the higher class, those of the two associations that it should be classified in the lower. It is not

the State *versus* the individual tax-payer, but the State *versus* a group of tax-payers, or their representatives, no one of whom has any special reason to be more interested in the decision than another. It is the classification which determines definitely the amount which the state is to receive from the tax and the amount which each association—not each individual tax-payer—is to contribute. After the classification is settled, therefore, any further conflict of interests is between the members of the same association, each of whom will of course find it for his advantage to see that he does not pay more than his share of the total tax of the association, or, what is the same thing, to see that other members do not pay less than theirs.

It follows that, so far as the returns from the tax are concerned, it is only necessary to ascertain the earnings or capital of a business within rather wide limits,—namely, the limits which determine the classification,—and the tax-payer may be called upon to state where within these limits his business belongs (*Gesetz*, § 55); but any more definite statements as to his earnings or capital cannot be required of him. He may, however, be required to state in what business or businesses he is engaged, where they are located, the number and kind of workmen employed, the nature and quantity of machinery in use, including the motive power of the works, or to answer any other questions in regard to the outward indications of the extent of his business (*Gesetz*, § 54). The chairman of the tax committee, moreover, has the right to inspect any place of business or manufacture during working hours (§ 25). But the books of the business cannot be examined without the owner's consent (§ 27), and the assessors are bound by oath to keep secret all information obtained in the exercise of their office (§ 49).

It must not, however, be forgotten that in the assessment of the income tax the written declaration is required. These declarations can hardly fail to be of great assistance in the assessment of the business tax. In many cases, the personal income of the tax-payer will be identical with the earnings derived from the business in which he is engaged; and the Introduction to the business tax law calls attention to the

urgent desirability of selecting for chairman of the tax committee the chairman of the income tax assessment commission for the same district, "on account of the substantial identity of the materials used in ascertaining industrial income and business earnings."

It being the intention of the law to collect about 1 per cent. of the earnings, we might perhaps, at first thought, expect that the average rate selected for each class would be about 1 per cent. of the arithmetical mean between the minimum and maximum earnings; but, as a matter of fact, we find it to be considerably less than that, and the difference is greater in Class III. than in Class II., and greater again in Class IV. than in Class III. These lower rates were selected with the expectation that in any class the businesses with smaller earnings will outnumber those with larger, and that the actual average earnings will therefore be considerably less than this arithmetical mean between the minimum and maximum limits. It is assumed, furthermore, that this numerical preponderance of small businesses over large will be greater according as the class is lower. It is presumably expected, then, that the average earnings will not be far from 30,000 marks in Class II., 8,000 marks in Class III., and 1,600 marks in Class IV. Indeed, the successful application of this method of assessment and scale of rates depends in some measure on the approximate correctness of these estimates. In case, however, the average rate proves to be more than 1 per cent. of the average earnings in any association, a reduction of the assessment may legally be demanded (*Gesetz*, § 15, 3); but no provision is made in the law for cases where it proves to be considerably less than that. We might at first think that in such cases there would be no occasion for complaint on the part of the tax-payers. Yet a little consideration shows that the fact that the average rate is considerably below 1 per cent. of the average earnings might prevent the equitable distribution of the total tax of the association by compelling businesses with small earnings to contribute more than their share. We may take again for illustration a tax association in Class III. composed of 100 members. The total assessment will then be $(100 \times 80 =)$

8,000 marks. As long as the number of members in the association remains the same, there will be no change in the total tax, whatever changes there may be in the total earnings. If the expectation of the law is fulfilled, the total earnings will not be far from 800,000 marks, so as to make the tax about 1 per cent. Suppose, however, that the proportion of businesses with large earnings is greater than usual, so that the total earnings amount to 1,600,000 marks. Then the tax (8,000 marks) is one-half of 1 per cent. But the lowest rate which can be assessed in Class III. is 32 marks, which is equivalent to a rate higher than one-half of 1 per cent. wherever the earnings are less than 6,400 marks. Yet in this class they may be as low as 4,000 marks, or, if the business is rated on the basis of capital, 3,000 marks. On 4,000 marks a tax of 32 marks is more than three-fourths of 1 per cent., and on 3,000 marks more than 1 per cent. If these small businesses are taxed above the average rate per cent., it follows that some or all the larger ones must be taxed below it. We have here a case of *regressive* taxation. The small earnings are assessed at a higher rate per cent. than the large.

It may be very improbable that the rate per cent. of the total tax would ever prove to be as low as in the case we have supposed. Yet the scale of rates is such that in Classes II. and III. the tax on the minimum earnings which a business may have, if classified on the basis of earnings, cannot be less than three-fourths of 1 per cent., or, if classified on the basis of capital, less than 1 per cent. In other words, the minimum earnings must, in the first case, be taxed above the average rate per cent., as soon as that average falls below three-fourths of 1 per cent., and, in the second case, as soon as it falls below 1 per cent. That it should never in any case fall below 1 per cent. is certainly too much to expect. It may be that the resulting cases of injustice will not be very serious; but, in a study of this ingenious method of assessing the tax, such probable results as these are, it seems to me, worth noting. Some remedy for such cases might easily be found; and, indeed, under the law as it now stands, if the average earnings in any association prove to be unusually high, the classification

could be revised with a view to transferring, if possible, some of the businesses with earnings near the maximum limit to the next higher class. The use of two bases gives, as we have seen, a degree of flexibility to the classification which may often, as in such cases as this, prove convenient.

In conclusion, we can but remark that the enactment of such a law as this furnishes a striking evidence of the high degree of efficiency attained in the Prussian administrative service.

JOSEPH A. HILL.

NOTES AND MEMORANDA.

"PHILOSOPHY AND POLITICAL ECONOMY."

That Adam Smith was a moral philosopher as well as political economist has often enough been cited as proof that the two fields are but portions of a common domain. Some are indeed so bold as to affirm that the dividing fence is a useless obstruction, and might be removed with no loss either to political economy or philosophy. A writer of Mr. Bonar's rank was in no danger of making such a mistake. We are shown in the new volume under the above title* how constant and intimate are the relations between the two. We are shown, with the skill of large and generous learning, how this problem of philosophy and economics lay in the thought of some score of master minds. Though Plato gave to the State a purely economic origin, Mr. Bonar says: "Historically, it is true that the economical element is in the Greek philosophy subordinated to the political, and still more to the ethical. Such economical doctrine as is traceable in the writings of the Greek philosophers grows out of their moral and political philosophy."

In mediæval and modern times political economy grows out of political philosophy. It is not that economics did not exist to these earlier thinkers, but it was so mingled with philosophic and political discussion as to lose all distinctness. "Accordingly, the philosophers of the earlier periods devoted more space in their philosophical books to economic discussions than the philosophers of the later, who were free to hand over all such discussion to the economists. Plato's treatment of economical subjects is for this reason much more ample than Hegel's."

* *Philosophy and Political Economy in some of their Historical Relations.* New York: Macmillan & Co. 8vo. pp. 436.

This result of differentiation is, according to Mr. Bonar, limited chiefly to the more direct dealing with economic issues. It is admitted *indirectly* that at least economists concern themselves rather more than less with philosophic ideas.

This appears not only in regard to the theory of the foundation of property, family, society, and State, but in regard to the psychology of the feelings, desires, and volitions connected with the pursuit of subsistence and wealth. The time when Political Economy became a distinct study in the hands of the Physiocrats and the Scottish Philosophers was also the time when the motives of an ordinary human life were investigated with the greatest curiosity. (p. 374.)

So far as ethics may be considered a part of philosophy, this truth appears more clearly still. If we except the more severely theoretic investigation, ethical writers are turning more and more to economics. One has but to glance at recent works, like those of Professors Ziegler, Höffding, and Paulsen, to see how large a series of questions is introduced that are distinctively economic. A distinguished philosophic teacher, Professor Riehl, of Freiburg, says, "I have meant to write a volume of ethics before now, but the changes introduced by economic questions compel me first to study my problem some years as if it were a new one." Loria's new volume, *Les Bases Economiques de la Constitution Sociale*, is at every point as much a book on morals as on economics. English economists illustrate the tendency no less strongly than those of any other nationality. It is common to say that economic science is spoiled if it be once mixed with ethical elements. Of the strict theory, as distinguished from practical application, this of course is true; but this distinction of functions is far from adequate. No one more successfully than Professor Sidgwick "keeps his moralizing where it belongs"; yet his economics as well as his political philosophy are profoundly modified by the point of view which he invariably takes,—the philosophical. Here, indeed, the greatest change in regard to the relation between economics and philosophy may be seen. However sharply functions are differentiated, writers seem more and more forced to look at the whole problem from a philosophical, ethical, and psychological standpoint.

This may be seen in the school which lays its supreme stress upon *consumption*. It may be seen in the growing emphasis that psychology is receiving. The closer becomes our familiarity with "social schemes," the more we find their ultimate differences in some sort of psychology. Owen, and, to a large extent, the socialists generally, have a view of human nature which is believed to justify their confidence that changed circumstance will produce a new humanity. Plans of social regeneration will be found in no way so radically to differ as in regard to this ultimate fact of human nature,—What sort of creature have we at last to deal with? Are the deeper qualities of character modifiable to any such extent? Whatever our views as to this point, we are brought straight to the great questions of evolution, heredity, and the like.

The very fact that we are getting our subject more specialized, that we are getting deeper into it, that we are getting a larger and more various order of facts classified, makes this philosophical standpoint necessary. As long as mere "production" was thought in some way to be central and final, as long as it was believed that the free and unhindered play of competitive forces would of themselves work out a society that should in any way satisfy our ideals, it was natural that the distinctly economic element should have chief place. In proportion, however, as distribution and consumption gain prominence, in proportion as man and his growth are seen to be the real end sought rather than wealth-creation, in that same degree the need of a philosophy of the situation is felt. Nothing now more marks the best economic thought than the tendency to set before itself some sort of ideal of human relationships in society. Such an ideal demands both a unifying and an interpretation of facts. Such unity and interpretation are impossible without a philosophy. The impulse to moralize in economics has doubtless played havoc with much political economy, yet the instinct to make ethical ends in some way a part of the problem was sound and right.

Now that it is possible to distinguish more clearly between the theoretic function and the application of principles, able writers are even more bold to determine the general problem

from points that are, first of all, philosophical. Overwhelming evidence of this can be seen in the new literature. So far as any change may be believed to have taken place, it is in the economist's readiness to subordinate strictly economic interests to interests that are held to be higher and more necessary.

Professor Smart, writing recently upon the "Place of Industry in the Social Organism,"* says, "Is it not becoming evident that philosophy and economics must now join hands to find out and declare what is the true end and right relation of economic activity among the other activities of human life?" The "philosophical economist" or "economic philosopher" is to attempt this task. Probably the greatest change now taking place is the growing and conscious purpose deliberately to reorganize the industrial organism for certain ends that are extra-economic. It is every day more widely admitted that such ends will never be won by the "freedom of industry" alone, as this term has been understood. Mr. Bonar says in his treatment of Darwinism (page 361) "it becomes a theory of development very akin to the philosophical, for it really involves the conservation of the past; and, instead of the preservation of *mere life*, the object of the struggle is the attainment, deliberately conceived, of a *better life*."

It is the reaching of this better life for all to which the mere wealth concept is becoming relatively of less importance in the minds of economists. Especially in Europe it is appearing in legislation as distinctly as among the thinkers,—this determination by *artifice*, in its proper sense, to control industrial forces, so that the beginnings at least of a completer life shall be possible to the mass of the workers. Every special question is more and more discussed in the light of this purpose. The eight-hour issue, for example, is felt to be seriously dealt with, only if quite other questions are asked than those concerning the mass of the product alone. Economic specialists more and more admit that, even if quantity of product lessens, there may be a final gain to the worker that will amply compensate the loss. Here the severely economic element becomes secondary to another order of values that might be expressed in

* *International Journal of Ethics*, July, 1893.

terms of "social welfare," "more general opportunity of progress," or some kindred notion. There is hardly a phase of the "social question" of which the same is not true. In the growing struggle between the ideals of co-operation and profit-sharing the ultimate reasons for preference translate themselves into something more than could be contained in an economic equation. Mr. Bonar's splendid study makes us feel this in every chapter. In the sure scholarship of the historical portion we see that since Grotius the idea that mere force in industry is necessarily right or best becomes ever more discredited among the ablest thinkers, and in its place rises the idea that the only conditions we may tolerate—the only "natural right"—is in such ordered circumstances as shall make possible *for all* a rational human life. Here men of most various schools approach each other,—Krause, T. H. Greene, and Herbert Spencer.

The only criticism one feels in reading this volume springs from the limits which the author sets himself. Why, in such a work, is Comte scarcely more than a foot-note? It is hardly enough that he spoke ill of economics. His relation to sociology and the sheer force and extent of his influence upon that order of ideas with which Mr. Bonar deals would seem to warrant further space for one who, more than any other, has deepened our sense of "order and progress," and hence of the organic and dynamic facts of society. Mr. Bonar says of Kant (to whom a whole chapter is given) and Herder, "This service of theirs, which seems remote from economics, was, in reality, to be of great importance to that study." Of Comte could less be said?

JOHN GRAHAM BROOKS.

AGRICULTURAL SYNDICATES IN FRANCE.*

It may be a fact of some interest for Americans that the *Syndicats Agricoles*, which are rightly attracting the attention of agricultural authorities in various parts of the world, and promise entirely to revolutionize French rural economy, owe their origin, in the first instance, to an American idea. Count Rocoigny, in the interesting account which he has published of the agricultural associations with which his name has become creditably associated, candidly admits that it was the "Farmers' Alliances" of the United States which first suggested the present form of French agricultural combination to its authors. As it happens, the offspring bids fair to prove of wider and more enduring benefit than the parent. Its past record has been one of truly astounding successes. It has spread as if by magic. In the brief space of barely a decade, it has covered all France with a network of organizations ministering to the needs of agriculture in a surprising variety of ways, and flourishing almost everywhere. There is not a department now without its *Syndicats*,—linked together in departmental, or, beyond that, in regional "groups," or not, as the spirit of union or of local independence happens to have prompted members,—generally doing good work. In M. Gatellier's words, the syndicates have "democratized" the use of feeding stuffs, artificial manures, and improved agricultural implements, increasing the consumption of manures alone from a poor 52,000,000 francs to 120,000,000, which promises a great increase in the near future, while reducing the current prices by from 20 to 30 per cent., and substituting a genuine article for one very much adulterated. They are diffusing agricultural education, improving cultivation, and—greatest benefit of all—they are teaching the value of independent thought and independent action to the French peasant, whose one distinctive fault heretofore has

*Comte de Rocoigny, *Les Syndicats Agricoles, et le Socialisme Agraire*. Préface de H. Le Trésor de la Rocque, Président de l'Union des Syndicats des Agriculteurs de France. Paris: Perrin et Cie. 1893.

been the want of "private initiative," and schooling him to rely upon himself and the assistance which by exchange he can secure from his neighbors, rather than on the questionable benefit of State help.

Count Rocquigny's book explains all the various methods employed, and presents, indeed, a highly attractive picture of syndicate work accomplished, in which it would not be possible to point out any one line which runs counter to truth. But, to the eye of one who has seen the syndicates actually at work, the picture appears a little wanting in clearness, owing to something of a false perspective, arising from a failure to indicate the precise proportion between the measure of success actually attained on different portions of the ground covered. This is easily explained by the fact that the count is writing far more with a view to incite his own countrymen to syndicatist action than merely to enlighten foreigners as to what has been accomplished. But to foreigners the caution is necessary.

The *Syndicates* began with a most ambitious programme. The Socialists had made inconvenient headway in some specifically agricultural departments of Central France. Laborers' unions had been formed, strikes were being organized, piece-work was being protested against. To meet such organizations on their own ground and prevent the formation of more, Professor Tanviray and his friends opposed to the "class" syndicates, consisting of workmen only, their new "mixed" syndicates, composed both of small folk and of large land-owners. And they declared fierce war against "Socialism," which war, even from their own point of view, appears to have been carried a trifle too far. Indeed, one whole "part" of Count Rocquigny's book is taken up with arguments against Socialism. The *Syndicates* wanted to build up as well as pull down. By their professors teaching technical knowledge, by their laboratories and their monthly publications,—the prized *Bulletin*, which in most districts has had a decided success,—by the prize competitions organized, the prizes offered for better cultivation, for the construction of liquid manure tanks, for the use of perfected implements,

by the advice freely given on the use of artificial manures, and by similar action, the syndicates have become one of the most serviceable agents of technical education in France. Beyond that they proposed effectively to defend agricultural interests on the political battlefield. And, in one instance, at the general election of 1889, the *Syndicat Economique Agricole* of Paris really was fortunate enough to score a success of this kind, by inducing a majority of the candidates for the new Chamber to accept openly the agricultural programme,—rejection of the proposed commercial treaty with Switzerland, lowering of the railway tariff, and a reduction of the land tax, all which measures have been carried. They also aimed at organizing co-operative sales of agricultural produce, combination for productive purposes, in the shape of co-operative dairies, vintries, and the like.

All this really is on paper the most interesting portion of the work done. One seems to feel, from Count Rocquigny's account, as if the great problem, the favorite problem with agriculturists of all nations, had at length been solved, and farmers had been taught to become their own salesmen, altogether independent of intermediaries. We read of horses and cider sold by syndicates in Normandy, of a syndicate taking an army contract for straw, and of similar transactions. But, in truth, all this amounts to very little. The practical successes which at all deserve speaking of are on this ground still to come. On the other hand, the syndicates have really been surprisingly successful in their organization of supply co-operation, and, beyond that, in their organization of co-operation for common work, much of which Anglo-Saxon and German farmers accomplish in combination, without resort to a formally constituted union. In France the spirit of combination was before 1883 altogether undeveloped, but the *Syndicats* must not take all the credit for this success exclusively to themselves. They have come upon the scene in the very nick of time, and, by the help of very able officers and a good administration, have managed to turn favorable circumstances to excellent account. In truth, however, all France, which previously looked upon co-operation only as a useful handmaid to

production, promising to bring emancipation and independence to workingmen, has lately become alive to the value of co-operation of other kinds, more particularly credit and supply. While agricultural syndicates have been organizing, agricultural co-operative supply stores, after the pattern of the London Army and Navy Stores, have been springing up and multiplying in towns; and in the south of France co-operative people's banks have become a recognized source of popular credit. Co-operative associations are now multiplying apace; and the official account of the growth of co-operation in its various aspects, which is in slow course of preparation in the Rue de Grenelle, promises to prove a most interesting publication. But, unquestionably, the *Syndicats* have managed to guide and swell this general current beyond anything which could have been anticipated.

The *Syndicat* movement, in fact, represents one of the most beneficently effective social or economic movements which France has seen for many a year. And its possibilities, as M. Brelay puts it, altogether defy measuring. This is the more surprising, since the act of 1884, which forms the constitutional charter of *Syndicats*, deliberately places hindrances in the way of these institutions, and makes it difficult for them to transact business. Hence those rather cumbrous methods of sale and purchase, which there is no space here to describe, and which Count Rocquigny admits to be roundabout and troublesome. Hence, also, the curious classification of members, which seems so wholly opposed to the democratic idea, and which one can scarcely expect to see maintained long in republican France, though up to the present no serious inconveniences appear to have risen. There are *membres fondateurs*, rich men paying heavy subscriptions, and pledging themselves for a fixed term of perhaps five years, and *membres effectifs*, poor cultivators, who pay a small subscription, and are free to come and go. It is the latter mainly who are intended to derive any benefit; and, in the very few credit syndicates thus far formed, it is they alone who do so. The rich men are patrons. Possibly that mode of organization was inevitable, but it is obviously open to objection. It does not represent the purest form of self-help.

However this may be, it is impossible not to admire the great good which these institutions have done to French agriculture when one sees it. And one cannot help thinking that from co-operation practised in so striking a variety of forms — co-operation not only in every description of supply and of insurance, but also in such work as draining and embanking, fumigation to repel the frost from vineyards, exterminating noxious insects, buying implements for common use, from large steam threshing-machines down to the smallest tools, co-operation for blending vines from different departments, for arbitration, for settling the proper customs as between incoming and outgoing tenants, and many things more — agriculturists in other countries ought to be able to learn something, even though for the ordinary purchase of goods they do not require a new form of association.

HENRY W. WOLFF.

AN interesting contribution to the monetary history of the United States since 1878 was made in a valuable paper read by Mr. M. L. Muhleman at the meeting of the International Institute of Statistics in Chicago. Mr. Muhleman, who has had experience as an officer in the Treasury for many years, stated that the demand on the Treasury for notes of the smaller denominations had for years been steadily large and difficult to meet. The indications at the central point of issue have, apparently, been that the supply of this sort of currency has been insufficient rather than redundant for the convenience of retail transactions; the situation being thus different from that in regard to the subsidiary coins, of which the Treasury has held much more than the community had occasion to use. Mr. Muhleman expressed his opinion that, even before the extraordinary demand of the midsummer panic of 1893 set in, the normal demand for the notes of the four smaller denominations (one, two, five, and ten dollars) had not been satisfied,

and that fifty millions or more could be added to the stock of these denominations without causing embarrassment. This is testimony of weight on an interesting and important phase of the currency situation.

The total volume of paper issues of all sorts, in denominations of twenty dollars and less,—including gold and silver certificates, United States notes, and Treasury notes and bank-notes,—was: in 1878, 563,000,000; in 1886, 707,000,000; in 1893, 966,000,000. This is a growth more rapid than that of the population, and indicates a great increase in the volume of exchanges and purchases in which material welfare reaches its final and concrete expression. It shows once more the direction in which the United States was able to absorb the silver issues of the act of 1878. It shows, too, the nature of the probable limits to the power of absorbing the heavier issues of the act of 1890.

THE parliamentary papers on the suspension of the free coinage of silver in India have been published, and have been reprinted at Washington by order of Congress. They comprise: (1) the report of the Indian Currency Committee, known from the name of its chairman as the Herschell Committee; (2) the correspondence between the Indian government and the home government; (3) the testimony before the Indian Currency Committee. From the correspondence it appears that the Indian government suggested as early as March, 1892, the adoption of some measures towards checking the decline in the gold value of the rupee. In June, 1892, it specifically recommended the closing of the mint to the free coinage of silver, and arrangements for the introduction of the gold standard, in case the international conference then impending should fail to reach a satisfactory result. The Indian Currency Committee was appointed in October, 1892, to consider this recommendation. In January, 1893, the Indian government submitted a draft bill for suspending the free coinage of

silver; and on May 31 the committee made its elaborate report. The report was at once sent to India; and, after a telegraphic exchange of opinions, the home authorities on June 20 authorized the Indian government to proceed. The act for suspending the free coinage of the rupees was accordingly passed a few days later.

The communications of the Indian government, and the report of the Currency Committee, alike lay stress on the probability of the cessation of silver purchases in the United States, and of a consequent further fall in the price of silver; and they urge that any measures taken to protect the Indian finances should come before this further cause of embarrassment had come into operation. The grounds and probable results of the final step are discussed by competent hands in the September number of the British *Economic Journal*.

THE Report of the Senate Committee of Finance on Wholesale Prices, Wages, and Transportation, was finally issued in the course of the summer. Though published as a Senate report, it is virtually a publication of the Department of Labor, the work of collecting and arranging the enormous mass of material having been intrusted to that department, and carried on under the direction of Commissioner Carroll D. Wright. The investigation was conducted on a scale such as would have been impossible without a very heavy expenditure of funds, which, in this case, at least, was directed to the publication of material of high value. The report fills four large volumes, and is a monument of thorough and skilful statistical work. No such careful and complete investigation of the course of prices has ever before been made.

The investigation was first undertaken, it will be remembered, from a praiseworthy desire to secure authentic facts and unbiassed conclusions on the workings of the tariff. But, as might have been expected, this particular object could not be separately pursued; and the present collection of materials,

while it may be helpful to the student of tariff legislation, is helpful simply as all material on industrial history may serve his turn. The main problems on which light is thrown are the monetary ones. Here we have continuous quotations of the prices of 223 articles from 1860 to 1891, while for 90 of these articles the quotations are from 1840 to 1891. There are 543 series of wages returns from 1860 to 1891, and 61 series which begin as early as 1840, each series referring to a considerable number of workmen. There are elaborate and continuous data on rail and water transportation rates. The prices are quoted four times for each year, at the beginning of the quarters, and are prices from actual sales, ascertained chiefly from the books of merchants. Wages are given for January and July of each year, and are similarly ascertained from actual pay-rolls.

Not only is there this imposing mass of invaluable material, but there is a complete analysis of the main results. The task of digesting the statistics was put into the capable hands of Professor R. P. Falkner, to whom economists are indebted for a presentation of the results so skilful and complete as to dispense in large measure with the need of referring to the material itself. Professor Falkner has computed index numbers, based on the January prices of each year, indicating the course of prices for different groups of articles,—food, clothing, metals, and so on,—and has computed also general index numbers for the whole list of articles. In reaching the index numbers, both the simple arithmetical mean and the mean weighted according to the importance of the articles were used. The returns of wages were similarly digested, index numbers for different occupations and for the whole set of returns being worked out. Finally, at the close, the results of the various European investigations of prices are summarized for ready comparison with those of the Report. The materials, the results, and the methods of the whole investigation will command at once the earnest attention of economists, and will not fail to be the occasion for active and instructive discussion.

THE financial troubles of the last few months have once more brought into relief the peculiar position of gold in the currency of the United States. During the months of July and August, when the scarcity of "money" for every-day use was greatest, the banks paid out from their reserves, especially in New York, considerable sums in gold coin. These coins, however, could not make their way into active circulation, partly because they were not in the denominations desired for the ordinary exchanges and purchases, partly because the purses and pockets of the people were not adapted for their safe and easy carriage. The demand was for paper money of the smaller denominations, and the "premium" which existed during July and August was mainly for currency of this sort.

The crisis reached its severest stage, as indicated by the operations of the New York banks, in the second half of August. The course which it ran is indicated by the following figures, which give the condition of the banks at selected dates:—

[MILLIONS OF DOLLARS.]

	Loans.	Deposits.	RESERVE.	
			Specie.	Legal Tenders.
February 4 (maximum deposits),	464.9	495.5	83.4	52.3
May 27 (before the stringency),	415.9	436.7	70.7	64.0
June 17 (clearing-house certificates issued)	410.7	406.5	68.2	42.2
August 12 (lowest reserve),	411.8	372.2	53.6	22.9
September 16 (recovery),	392.9	377.3	73.5	31.5

Between the close of May and the middle of June the banks lost twenty-two millions of legal tenders, and so were led to the issue of clearing-house certificates. A further loss of twenty millions took place during the next two months, leaving the reserve at its lowest point in the middle of August. The holdings of specie (which is almost all gold) showed a much less marked decline, from seventy millions in May to fifty-three millions in August.

One consequence of the critical conditions of this period was an abrupt change in the character of the money taken in and paid out by the government treasury in New York. The following figures, which give the percentage of the various sorts of money received at the custom-house in New York for import duties, indicate the nature of this curious turn:—

	Gold Coin.	Gold Certificates.	Silver Coin and Certificates.	U.S. Notes.	Treasury Notes.
January, . .	0.0%	8.9%	15.8%	42.1%	33.2%
February, .	0.0	9.2	20.7	33.3	36.8
March, . .	0.0	7.8	16.7	28.0	46.5
April, . . .	0.1	2.9	23.3	41.0	32.7
May,	0.1	0.0	37.6	26.2	35.9
June, . . .	0.0	0.0	12.0	53.0	35.0
July, . . .	12.5	4.6	12.3	55.6	15.0
August, . .	47.4	4.3	5.1	37.6	5.3
September, .	53.1	1.7	17.7	16.3	6.3

It will be seen that in the early months of the year gold and gold certificates had practically disappeared from the customs receipts, United States notes and Treasury notes forming the bulk of them. The causes of this state of things are sufficiently well known,—the decline in the Treasury gold reserve at the beginning of the year, the uneasiness as to the maintenance of gold payments, and the redundancy of paper. In July, August, and September the situation suddenly changed. Gold coin was paid in for customs in large amounts, while silver certificates and Treasury notes of the issue of 1890 almost disappeared. Evidently, gold coin was turned into the Treasury to meet public dues, while paper of the sort available for every-day use was retained to meet the extraordinary demands of the panic period.

DURING the summer of 1892 I was fortunate enough to have a conversation with a very thoughtful English artisan, whose account of his own "trade" revealed a degree of immobility among skilled laborers which I was hardly prepared to find.

My informant had been a "hat-shaper" in London for thirty-six years, working for the largest hat-manufacturer in England. Yet during the whole of that period he scarcely knows of any instance in which a shaper, however slack employment may have become, went into another occupation. In fact, he recalls absolutely no case except that of one man, who for twelve months found work as an odd-job man at a neighboring leather factory.

Sixteen years ago a machine was introduced which, though it did not altogether dispense with the labor of shapers, has reduced the wages of three out of four of them to one-half of what they were before. Yet my informant knows no case of a man leaving the occupation in consequence. This applies to many score of men, the *élite* of the "trade" in point alike of skill and intelligence. It applies equally to men unmarried and married, old, middle-aged, and young. It is interesting to notice, moreover, that, though my informant was himself the son of a small master baker and his own children had not been brought up to his own industry, he was of opinion that most of the shapers of whom he spoke were the children of hatters.

W. J. A.

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[Chiefly published or announced since July, 1893.]

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